The relationship between eating attitudes, social anxiety, body-satisfaction and self-esteem in young women with and without disordered eating attitudes.

A thesis submitted in partial requirement for the fulfilment of a Master of Science degree.

Karen Lee Dale

University of Canterbury

1995

Acknowledgments

Firstly, I am grateful to the schools, teachers and students who willingly participated in the study; for their time and openness. I would like to thank those whose work inspired my own, and all who offered their helpful comments at various stages of this thesis. Particular thanks must go to my supervisor, Dr R Hughes, not only for his willingness to help, and useful comments, but for instilling confidence in my work, and thus the motivation to continue. Thanks to friends and family, near and far, - Evelyn, Frank and 'Mamie', thanks for the continuing interest. Special thanks to my parents for their unconditional support - financial and otherwise! Likewise, my brothers - Darren, for his interest, advice, and faith in my abilities; Brett, for his organisational help, pragmatic perspective on my ideas, and teaching me the ideal way to relax when it was needed. Finally, I am indebted to my partner Mark, for his invaluable assistance - especially in the vagaries of computers - and for his tolerance, support and belief in both myself and my work.

Abstract

In a study investigating the relationship of self-evaluations to the co-occurrence of disordered eating and social anxiety, eating attitudes, social anxiety, body-satisfaction and self-esteem were examined in a non-clinical population composed of 224 young women. Survey results revealed high levels of social anxiety and disordered eating, and positive correlations between all variables for all subjects. Division of subjects into disordered eaters and normal eaters showed that body-satisfaction and self esteem were predictive of social anxiety for each group, but that eating attitudes and social anxiety were unrelated when these two variables were partialled out. Socially anxious disordered eaters had significantly lower self-esteem than those who were not socially anxious, supporting our prediction that comorbidity is more likely to arise when both body-satisfaction and self-esteem are low. Results were interpreted within the context of a model integrating both the self-presentational and evolutionary approaches to social anxiety with an 'escape' perspective on psychopathology. The study suggests that poor self-evaluations contribute to the adolescent's inability to cope with societal demands, highlighting the need for development of internal sources of self-esteem among young women.

Table of Contents

List of Figures and Tables

1. Introduction

Weight gain and becoming fat are concerns many of us have experienced or will experience. Those among us who have never experienced this concern will no doubt know of somebody, (sisters, girlfriends etc) who has. For readers who are smiling knowingly, consider the fact that for some, this concern becomes so intense and pervasive that anorexia nervosa or bulimia nervosa develops. Anorexics and bulimics often experience additional fears also, such as severe fears of interpersonal evaluation, ie. social anxiety. The present study examines the relationship between eating disorders and social anxiety. Of particular interest are poor body-satisfaction and self-esteem as factors central to comorbidity.

The introduction is presented in five chapters. I begin with a brief look at the questions to be considered. The following two chapters will present a review of the relevant literature on eating disorders and social anxiety respectively. The purpose here is to give an overall summary of the aetiology of these disorders, and note the relationship each of these has with body-satisfaction and self-esteem. In Chapter 4 comorbidity studies are reviewed, and conclusions from the preceding chapters are integrated to identify common factors in the path towards psychopathology. The contribution of body-satisfaction and self-esteem is noted, but questions remain unanswered. These are the focus of the present study; design features and predictions are outlined in Chapter 5.

1.1 Overview

The presence of social anxiety in patients with eating disorders has been documented and has recently become a focus of inquiry, (Bulik et al., 1991). Although social anxiety occurs among many patient groups, different factors may underlie the anxiety. Furthermore, social anxiety and the underlying factors (such as body-satisfaction and/or self-esteem) may play an important role in the onset or maintenance of eating disorders. Understanding the specific nature of the anxiety, and the interrelationship with other factors can help dictate treatment for patients with eating disorders, as well as elucidating social anxiety experienced by those without eating disorders.

Although there is extensive evidence documenting the existence of social concerns among anorexics and bulimics (see for example, Strober, 1980; Gross and Rosen, 1988; Mizes, 1988; Heatherton and Baumeister, 1991; Streigel-Moore et al., 1993), there are few studies specifically examining the comorbidity of social anxiety and eating disorders and few attempts have been made to explain this. In a recent investigation into this comorbidity, Bulik et al. (1991), noted that fears of negative evaluation in women with eating disorders occurred across a range of social situations. Furthermore, despite the importance that anorexics and bulimics give to body shape and weight as a measure of worth, these social evaluative fears generalised *beyond* scrutiny of these characteristics. Thus, we are still left with the unanswered question, "What factors underlie social fears in women with eating disorders?"[1]

[1] Because of the higher prevalence of eating disorders among women than men, (see Hsu, 1990), women are the focus of the present study.

Of course, this question leads to other considerations. Why do women with eating disorders experience more social fears than women without? Do eating disorders and social anxiety 'cause' or exacerbate each other? Is it possible that certain commonalities underlie both eating disorders and social anxiety? If so, what are these underlying features? Do these factors also underlie the social anxiety experienced by women *without* eating disorders? The purpose of the present study is to consider these questions. In particular, I will focus on global self-esteem, and the more specific aspect of body-satisfaction as determinants of both eating disorders and social anxiety. I begin with a consideration of eating disorders.

2. Eating Disorders

Many of us will have been concerned, at some stage, with our weight, and becoming 'fat'. At least, this is the impression one gets when browsing through popular women's magazines, attending exercise gyms, and conversing with friends. But how common *is* this concern with one's body weight? Who among us acts on our well-intentioned resolutions and diets? For whom does this dieting progress into a potentially life-threatening situation such as anorexia nervosa or bulimia nervosa, and why? These questions will be considered in this chapter in a brief review of literature on the following aspects of eating disorders: definitions, epidemiology and aetiology. In-depth treatment of all aspects of the eating disorders is beyond the scope of this study. For a comprehensive review, readers are referred to Hsu, (1990), or Garner and Garfinkel (1985).

2.1 Definitions and clinical features

As the term suggests, 'eating disorders' as defined in the DSMIII-R refers to a subclass of disorders "characterised by gross disturbances in eating behaviour" (APA,1987, p65). They include anorexia nervosa, bulimia nervosa, pica, rumination and eating disorders not otherwise specified. Although these disorders share the characteristic of disturbed eating behaviour they may differ in epidemiology, aetiology and course. However, anorexia nervosa and bulimia nervosa are related; both are

characterised by the central feature of a "distorted attitude toward weight, eating and fatness" (Hsu, 1990, p1). Henceforth, the term 'eating disorder' will be used to refer to anorexia nervosa or bulimia nervosa. Anorexia nervosa refers to a disorder in which the individual has an intense fear of gaining weight and through self-starvation refuses to maintain a minimal acceptable body weight. In bulimia nervosa the individual shares this fear of weight gain, but rather than consistent self-starvation engages in recurrent bingeing, accompanied by self-induced purging (for example, vomiting) in an attempt at avoiding weight gain. Section 2.1.2 presents comparisons between anorexia nervosa and bulimia nervosa. First however, the distinction between eating disorders and dieting is discussed.

2.1.1 The eating disorders - slimming diseases?

As noted, the central feature of both anorexia nervosa and bulimia nervosa is a distorted attitude towards one's body weight, fatness and eating. "Healthy" women who are dieting, (as well as anorexics and bulimics) may exhibit what appear to be distorted attitudes towards weight. The possibility of a continuum of the eating disorders (with non-dieting and eating disorders at either extreme) has gained support from several researchers, for example, Button and Whitehouse, (1981), Patton, (1988), Mintz and Betz, (1988). Feminist interpretations (Hesse-Biber, 1991; Nagel and Jones, 1992), explaining the influence of sociocultural factors on dieting, offer indirect theoretical support by failing to distinguish between chronic dieting and the eating disorders. To support a continuum idea of eating disorders however, one must carefully specify the dimensions of the continuum. For instance a continuum defined by caloric restriction (ie. a behavioural continuum) or weight concern may appear

reasonable, with anorexics and non-dieters at either end. Closer examination of alternative facets of eating disorders however, prompts the suggestion that this continuum idea should be modified. Two key, related aspects concern the underlying motivation to diet/purge (ie. proximal *and* distal goals of the individual) and the methods adopted to achieve these goals.

The possibility of a different motivational substrate underlying the dieting behaviour of dieters and that of women with eating disorders has been suggested. Polivy and Herman (1987) suggest that positive goals underlie dieting behaviour of 'dieters' while negative goals underlie the disturbed eating behaviour of the anorexic or bulimic. For example, we may have the dieter who wants to be slim and attractive to boost self-esteem, the anorexic who wants to retain her prepubertal body weight in an attempt at avoiding maturation, and the bulimic whose weight anxiety coupled with impulse control problems result in extreme behaviours - bingeing and purging. Alternatively, anorexics, bulimics and dieters may be motivated by the same ultimate goal - for instance, social approval. However, although both groups (dieters and women with eating disorders) focus on eating and their bodies as a means of reaching what can arguably be considered the same ultimate goal, they differ in their conceptions of how best to achieve this.

Bruch (1966, p555) stressed the "relentless pursuit of thinness" in anorexia nervosa. However, the difference between dieting to look attractive and dieting to become *skinny* has often been overlooked as theories have failed to clearly distinguish between avoidance of 'fatness' and desire to be *underweight*. The anorexic may fear weight gain because she (incorrectly) believes she is fat and wants to be slim. This in fact, may be a justification to herself or others. In reality she may fear weight gain

because she wants to maintain her emaciated state - even at the expense of the attractiveness desired by the dieter. Hsu et al., (1991) notes that there has been little investigation into the idea that eating disorder patients fear *normal* weight. However, the view that eating disorders are motivated by a desire for beauty is simplistic and misleading.[2] One must also consider proximal goals (eg. actual body shape desired) and distal goals, (for example, social approval) of each individual.

Thus, dieting and the eating disorders are both characterised by weight concern and control over body shape as a means of meeting certain needs of the individual. While it is arguable that ultimately these needs are similar in both groups, attention should focus on the factors which contribute to the different magnitude of weight concern experienced by dieters and women with eating disorders. These *risk factors* that contribute to the progression from dieting to eating disorders are discussed in Section 2.3 which focuses on why only some dieters develop eating disorders. Furthermore, within the eating disorders, there are fundamental differences. These are outlined in the following section.

2.1.2 Anorexia nervosa and bulimia nervosa - distinctions

Anorexia nervosa and bulimia nervosa are two distinct but related disorders. Diagnostic criteria for each, as outlined in the DSMIII-R (APA,1987) are presented in Appendix 4. In addition, sufferers of each disorder present with specific symptomatology - the reader is referred to Phelps and Bajorek (1991) for an excellent

[2] See Section 2.3.4 for a discussion of the sociocultural view. Emphasis on women's bodies in society may contribute to eating disorders not because 'beauty' is desired, but because women may feel that their bodies (as opposed to selves) are noticed, and thus attempt to express themselves through their bodies.

description.

Along with the physical symptoms of anorexia nervosa (for example dry skin, lanugo, neurochemical abnormalities) anorexics may exhibit mood fluctuations, insomnia, social withdrawal, and cognitive deficits (such as dichotomous thinking and denial).

Physical symptoms of the bulimic include gastrointestinal changes, potassium deficiency, and dental enamel erosion. In contrast to the anorexic, the bulimic may be of a 'normal' weight. Also in contrast to the anorexic, the bulimic exhibits less denial and more guilt in relation to the disorder. The typical bulimic exhibits poor impulse control, perhaps also manifested in drug abuse and stealing as well as bingeing. This is contrasted with the anorexics 'perfect' control over food intake. (Clinicians should be particularly aware of the different experiential aspects of these two disorders. For a bulimic with a history of the perfect control so central in behaviour and importance to anorexia, the experience of total loss of control over food intake must be particularly traumatic).[3]

The bulimic may exhibit mood states similar to those of the anorexic, for example, dysphoria, anxiety. Along with the interpersonal fears exhibited by both anorexics and bulimics, body dissatisfaction and low self-esteem are common to both groups. These are discussed in greater detail in Section 2.3.6.

[3] Hsu notes that 50% of bulimics have a history of restrictive anorexia, and 40% of anorexics will develop bulimia.

2.1.3 ***Defining eating disorders - conclusion***

Dieters exhibit a comparatively healthy attitude towards weight loss, perhaps dieting to become more attractive, and thus boost self-esteem, or physical health. Weight concern, whilst present, is not so extreme as to be dysfunctional. This dimension could define a continuum along which to compare dieters with those experiencing eating disorders. The latter group exhibits a greater distortion in attitudes towards weight and eating and more intense fears of weight gain. However there exist certain factors (for example underlying psychological characteristics) which distinguish the eating disorders from dieting. In order to understand anorexia nervosa and bulimia nervosa, it is necessary to consider the epidemiology of these disorders. The following section documents the prevalence of dieting, as this provides the entreé into eating disorders.

2.2 Epidemiology

It is well documented that *dieting* occurs frequently among women, particularly high school and university aged women. In a study of 846 school-children, Wardle and Marsland (1990) found that more than 50% of the subjects (37% and 15% of the girls and boys respectively) reported feeling too fat and wanting to lose weight. Mintz and Betz (1988) commented on the high frequency - 61% - of disturbed eating behaviours among 643 non-anorexic college women. These findings lend support to Polivy and Herman's (1987) claim that dieting could be considered normal (if normality is defined along a statistical dimension). Furthermore, researchers (for example, Wardle

and Marsland, 1990), have found concern with dieting to be highest among women of upper/middle social class.

Clinically diagnosed eating disorders are reported to be most common in the population that diets the most, that is, young, Caucasian women, (Hsu, 1990). Hsu reports the mean age of onset for anorexia nervosa and bulimia nervosa to be 17 years and 18 years respectively. Although Halmi et al. (1979) found a bimodal distribution of age of onset for anorexia nervosa with peaks at 14 years and 18 years, (and bulimia 18 years) it is still evident that the eating disorders are most common in young women. Furthermore, the upper/middle social classes are overrepresented in clinical eating disorders as well as in the dieting concerns mentioned above, (Hsu, 1990; Shisslak et al., 1987; Wardle and Marsland, 1990).

It is possible that this representation of the upper/middle social classes among the eating disordered population reflects accessibility to treatment, and hence, diagnosis. However, the greater prevalence of other psychological problems in the lower socio-economic classes (see Wardle and Marsland, 1990) indicates that financial accessibility to professional help is not solely responsible for the relationship between socioeconomic status and eating disorders. The findings of Bushnell et al., (1990) that the incidence of bulimia nervosa was *not* greater among *educated* women are consistent with the trend towards a more balanced representation of the social classes in eating disorders (see Shisslak et al., 1987).

The eating disorders occur most often among women, but how common *are* they? Prevalence and incidence rates vary depending on the criteria used to define each disorder, and must be considered conservative as they omit those not seeking

treatment. (Crisp, 1980, points out that denial of having a problem is common in those with anorexia nervosa.). Cooper and Fairburn (1983) report a lifetime prevalence rate of bulimia to be 1.9%. This study is consistent with the later findings of a Christchurch-based study reporting the lifetime prevalence rate for bulimia nervosa in women to be 2.6%. (Bushnell et al., 1990.) The original data collected (reported in Part I of this study, Wells et al., 1989) shows that anorexia nervosa is less prevalent in Christchurch - 0.1%. However, when females only are considered this increases to 0.3%. The prevalence of any of these two eating disorders, either anorexia nervosa or bulimia nervosa, among Christchurch females is estimated at 2.1%, with the highest rate in younger women. These findings are consistent with the 0.5% prevalence rate of anorexia nervosa in school-aged women reported by Davison and Neale (1990), and support Hsu's (1990) contention of prevalence rates for anorexia nervosa and bulimia nervosa to be approximately 1% and 2% respectively. The reader is referred to Hoek (1993) and Hsu (1990) for a further review of eating disorder epidemiology.

Aetiological theories outlined below may offer insight as to why dieting is common in one sector of the population, and, perhaps more importantly, help explain the progression into eating disorders for some individuals.

2.3 Theoretical perspectives / aetiology

Aetiological considerations in the present section refer to both anorexia *and* bulimia, namely, the pathological concern with weight and shape. Where relevant, distinctions

have been made. There exist several frameworks from which to examine the causes of eating disorders, what perpetuates them, and the predominance of these particular disorders among young women. The first two approaches to be outlined cover physiological and genetic factors. The following two look at eating disorders from a systems perspective and focus on the family and society. The final, broad, perspective covers individual psychology - a look at personality factors, and also the cognitive-behaviourist view. These perspectives will be integrated to provide a coherent outline of eating disorder aetiology presented in the final part of this Section.

2.3.1 ***The biological approach***

Readers are referred to Hsu, 1990 (pp 40-58), and Mitchell and Eckert, 1987, for a review of the psychobiology of eating disorders. The focuses of the biological perspective have included the possibility of cholecystokinin dysregulation, and low levels of endogenous opioids in anorexics. Mitchell and Eckert note however, that research into these areas is, at this stage, inconclusive. Of considerable interest has been hypothalamic levels of the neurotransmitter, serotonin (see Goldbloom, 1987). Hyposerotoninergic states have been found in women with bulimia nervosa and low levels of serotonin metabolites leading to serotonin dysregulation have been found in women with anorexia nervosa, (Phelps and Bajorek, 1991). However, Hsu points out that while research into neurotransmitter functioning is rapidly advancing, there is no compelling evidence for *primary* neurotransmitter dysfunction in the eating disorders. Similarly, although convincing evidence has been found for hypothalamic dysfunction in both anorexia nervosa and bulimia nervosa, this appears to be secondary to malnutrition and weight loss.

2.3.2 The contribution of genetic factors

Insight into the aetiological role of genetic factors in the eating disorders has been garnered from examining the prevalence rates among twins, and relatives of affected probands. Twin studies reviewed by Hsu, (1990, pp89-90) suggest concordance rates for anorexia nervosa among monozygotic and dizygotic twins are approximately 50% and 7% respectively. Similarly, there appears to be a greater concordance among monozygotes (as opposed to dizygotes) for bulimia nervosa - 33% and 0% .

Well controlled familial-risk studies can also elucidate on the genetic component of eating disorders. In an excellent article examining the possibility of a common transmissible factor in anorexia nervosa and affective disorders, Strober et al. (1990) noted that anorexia nervosa was 8 times as common in female first-degree relatives of anorexic probands as in the general population. While they noted that evidence for familial aggregation of bulimia nervosa was less clear, their data was in concordance with Hsu's conclusions that first- and second-degree relatives of eating disorder patients are 4-5 times more likely to develop an eating disorder than the general population.

Thus the genetic predisposition to anorexia nervosa suggested by twin studies appears to be supported by the familial transmission of risk for anorexia nervosa. Further studies would clarify the relationship for bulimia nervosa. Of course, the shared environmental factors among relatives could account for the findings of Strober et al. It is widely accepted that genetics and the environment interact (see Plomin, 1986), and it is this interaction that should be investigated. It appears that genotypes mediate other factors, (Hsu, 1990) thus influencing the individuals responses to environmental events. These events in turn may reinforce genotypic tendencies

towards pathology, (Strober et al., 1990). Although the exact nature of this relationship is still unclear, certain family influences on the eating disorders have been identified, and will be outlined in the following section.

2.3.3 The role of the family

Certain interaction patterns have been identified in families of anorexics and bulimics. They include those identified by Minuchin et al. (1978): enmeshment, overprotectiveness, rigidity, and lack of conflict resolution. An *enmeshed* family is once in which personal boundaries are ignored and family members are very involved with each other. There is also an extreme concern for each other in these families (*overprotectiveness*). *Rigidity* refers to the avoidance of any change as members attempt to maintain the status quo. *Lack of conflict resolution* arises out of such rigidity and repressed feeling. Conflict is not tolerated and if it does emerge, such families do not possess the skills to resolve it. Despite the lack of empirical support for these patterns as *causative* factors in eating disorders we can theorise as to why these may contribute to the development of either anorexia nervosa or bulimia nervosa.

Illness in the family can direct energies and attention away from other issues (such as parental conflict, or additional psychopathology)[4], thus serving as a mechanism for avoiding conflict. Furthermore, it may in fact strengthen the family's unification as members 'rally around' in a battle against the illness. The idea of a stable harmonious

[4] Psychopathology in such families is well documented. For example, Hsu comments on the common occurrence of affective disorders in such families (3x greater than that of the general population, 1990;34).

family is maintained. Ironically, the illness may be an attempt on the part of the adolescent to communicate feelings she repressed in order to avoid this conflict. Thus, the perpetuation of illness could be explained from an approach-avoidance perspective with the adolescent attempting to confront conflict but lacking the appropriate means to do so, and the illness serving to further suppress underlying causes of the conflict.

The *manifestation* of illness/psychopathology in the form of an *eating disorder* and the affected individual's experience can also be linked to family interaction patterns. In line with Minuchin's idea of overprotectiveness and enmeshment, Bruch (1973) observed that parents of anorexics are controlling. This, coupled with the maturational changes that parents and adolescents find difficult to cope with (Furnham and Hume-Wright, 1992) can see the adolescent struggle to establish her own separate identity, (see Strober and Humphrey, 1987). She may attempt to gain some autonomy by establishing control over her body and food intake. That this means is chosen could be attributed to the family's excessive concern with outward appearance (see Hsu, 1990;, p99), poor body satisfaction that arises out of what the adolescent perceived as rejection from her parents over her emerging physical maturity, and sociocultural factors. These sociocultural factors are outlined below.

Thus, the adolescent may begin dieting to control her maturing body shape and avoid the physical and psychological changes that the family (and/or herself) are unable to deal with. Disturbed eating patterns are reinforced by the value of the eating disorder to the family (as well as the individual). The adolescent's eating disorder may be motivated by a desire to communicate, avoid conflict, and/or individuate from the family. The maturational changes and societal demands placed on the adolescent (and

her family) are outlined in the following section.

2.3.4 The sociocultural context of the adolescent female

Sociocultural factors play an aetiological role in eating disorders in that they increase dieting which provides the entree into eating disorders (Hsu,1990). However, as noted in Section 2.1.1, to assume that eating disorders arise out of sociocultural pressures to be slim and attractive is simplistic and misleading. Other factors explaining the progression into eating disorders must be considered. A further look at the sociocultural context of the adolescent could further our understanding of this progression.

The focus, by both women and men, on women's bodies in society is undeniable, and has been well-documented by Hesse-Biber, (1991). A sociocultural perspective on the role of women in (Western) society identifies the conflict a woman faces, of which her body is the key focus.

Hesse-Biber (1991) suggests that the eating disorders are a form of patriarchal control over women. Sociocultural pressures to be thin direct women's energies towards dieting, keep them physically weak, and perpetuate the idea that women are 'for decoration'. Similarly, Chernin, (1981, cited in Hesse-Biber, 1991) argues that eating disorders could be perceived as an attempt by women to adopt the feminine role (or present the feminine image) of childlike and helpless. Both of these perspectives imply that dieting and the eating disorders occur along a continuum. The goal of women is to conform to societal pressures of an ideal body shape. Vandereycken and Meerman (1984) contrast this with the psychodynamic view that

eating disorders may arise out of a fear of *accepting* the traditional women's role (mother, homemaker). The adolescent copes by avoiding biological maturity, (see Crisp, 1980). These two perspectives highlight the role uncertainty the adolescent female faces, ie. conflict over becoming a strong, mature woman or remaining childlike and 'feminine'. Control over one's body serves to delay the social and sexual uncertainties she finds herself faced with.

Supporting the idea that women take a more active role in their lives, Furnham and Hume-Wright (1992), suggest that eating disorders represent an attempt by women to establish control over their own bodies and identities. The need for control and resulting sense of competence is widely accepted as a factor motivating behaviour. Perceived lack of control has negative consequences such as self-condemnation, helplessness and vulnerability to stress, (see Klyczek and Gordon, 1988; O'Connor, 1991).

Thus, societal factors contribute to the eating disorders in several ways. Dieting may begin as a result of the pressure to obtain an ideal body shape, and present oneself as 'feminine'. Societal factors *intensify* the dieting process, by challenging the adolescent female with demands and pressures she may be unable to cope with. Role uncertainty creates (or exacerbates) self-doubt, interpersonal insecurities, and interpersonal conflict. Establishing control over her own body may become a way of asserting independence (from societal or familial expectations), control, and a means of expression for women. Society thus provides the context for the development of psychological problems in adolescent females, and, through the emphasis on dieting, provides the context for the channelling of these problems into eating disorders. However, it is necessary to consider the individual characteristics which help

determine whether the coping strategies of a young woman are healthy or pathological. These are outlined below.

2.3.5 Individual psychology in the eating disorders

The cognitive-behaviourist perspective emphasises the distorted cognitions and positive and negative reinforcement perpetuating disturbed eating patterns. The reader is referred to Slade (1982) for a comprehensive description. For example, anorexic behaviour is positively reinforced by concern and attention that the weight loss elicits from others, a feeling of control, uniqueness and accomplishment. The disorder is negatively reinforced by avoidance of weight gain (and the perceived negative social reaction to being fat). A bulimic woman who binges to escape from negative self-perceptions and emotions, and purges to reduce the anxiety and guilt that the binge produces, may continue to binge and purge. The fact that one's *eating patterns* can carry such strong positive and negative reinforcement value indicates that these women lack effective (healthy) strategies to cope with societal demands and interpersonal conflict. They are characterised by cognitive deficits such as dichotomous and irrational thinking, and what Hsu has termed "underlying deficits of self" (1990, p95). The focus here will be on these 'deficits'.

Heatherton and Baumeister (1991) have proposed a cognitive model which illustrates how negative self-evaluations and distorted thinking can lead to distorted eating patterns. While Heatherton and Baumeister focus specifically on binge-eating and bulimia, a brief outline will indicate the applicability of their model to anorexia as well as bulimia. In addition, evidence reported in support of various components of their

model (for example, poor self-evaluations) applies to anorexia as well as bulimia.

They propose that binge-eaters experience high standards and expectations (with regard to many aspects of the self, not just thinness). Falling short of these standards results in high self-awareness, characterised by negative self-evaluations. This in turn, creates emotional distress such as anxiety. To avoid this, the individual is motivated to achieve a state of "cognitive deconstruction" (p89) in which attention is restricted to concrete, low-level actions, (such as eating); with a focus on immediate sensations, proximal tasks and goals. This represents an attempted escape from meaningful thought. In short, the individual is motivated to escape from aversive self-awareness and the narrow attentional focus of the binge serves to achieve this goal. In addition, evidence reported by Heatherton and Baumeister suggests that "cognitive narrowing of the binge state will remove inhibitions against eating" (1991, p95). That is, the individual is not focussing on the meaningful consequences of their actions. This also makes the individual less rational and critical, hence the occurrence of dichotomous thinking, and other irrationalities. In bulimia, purging occurs as a means of coping with the negative emotions experienced when self-awareness returns (following the binge).

Although Heatherton and Baumeister provide extensive evidence supporting their theory, they do concede that the question of causality remains unanswered. Bingeing helps achieve cognitive deconstruction, which in turn 'allows' bingeing by fostering irrationality and removing inhibitions. They suggest that the relationship between bingeing and reduction in self-awareness is one of reciprocal causality.

The basic tenet of their theory can also be applied to anorexia. At a distal level,

retaining a child's body could be interpreted within the context of escaping from maturational pressures. The anorexic individual may be motivated to escape from interpersonal/familial conflict and aversive self-awareness, and thus concentrate all of her energies on losing weight. Indeed, Bruch noted that self-starvation results in "narrowed consciousness" (1973, 1978 in Vandereycken and Meerman, 1984, p53). The anorexics' cognitions are focused entirely on weight and food. As noted, evidence cited in support of different components of the model is applicable to anorexia. Thus Heatherton and Baumeister's model could apply to anorexia nervosa as well, although the 'cognitive narrowing' is not as immediate as that experienced by the bulimic and the model needs further development.

Thus anorexia and bulimia can arise out of the motivation to escape aversive self-awareness by focussing attention on eating patterns. Although evidence supports this idea, the theory is applicable to other forms of pathology as well, such as suicide, (Baumeister, 1990, in Heatherton and Baumeister, 1991). I propose that it can also help to explain social anxiety, as outlined in Chapter 4. The model does not explain the particular means chosen to achieve the goal of escape. It is hoped that elucidation on the *focus* of the aversive self-awareness will provide some insight. Of particular interest here is the relationship between eating disorders, body-satisfaction and self-esteem.

Low self-esteem and poor body-satisfaction in the eating disorders

Low self-esteem has been well documented in women with eating disorders, (eg Gross and Rosen, 1988; Mizes 88; Slade, 1982; Hsu, 1990). Many theorists have noted that for anorexic and bulimic women, self-esteem is largely determined by their body-satisfaction (Garner and Garfinkel, 1981; Mizes, 1988; Bruch, 1982; Hart et al.,

1989). For instance, an anorexic or bulimic woman may evaluate her inner qualities negatively if she feels fat., ie. if she is dissatisfied with her body. Or, as Streigel-Moore et al., (1993) note, insecurities (which result from low self-esteem) may interact with societal factors to produce a focus on a woman's body as a measure of worth. Thus the self-esteem/body-satisfaction relationship appears to be interdependent.

At this stage, it is sufficient to note that low self-esteem and poor body-satisfaction are related to feelings of ineffectiveness, doubt that the individual has about her ability to cope with societal demands, (see Allgood-Merten and Stockard, 1991; Shisslak et al., 1990). The motivational force of control, efficacy, and self-esteem has been noted, (see section 2.3.4). For the anorexic, a focus on weight as a (socially determined) measure of esteem, accomplishment and control, results. Bulimia may follow from semi-starvation and as noted, becomes a means of avoiding negative self-thoughts and the resultant negative affect. Furthermore, negative self-evaluations can result from and intensify additional psychological distress (such as social difficulties). In short, the low self-esteem of women with eating disorders contributes to general psychological distress, and ineffective coping strategies. Societal factors channel these problems into eating disorders.

2.3.6 Aetiology of the eating disorders - a summary

As suggested above, the eating disorders are multidetermined. Interpersonal problems such as low self-esteem, social uncertainties and lack of independence (arising out of and interacting with societal/familial factors) can produce a focus on

eating patterns as a means of both solving these problems and avoiding them. This is achieved by narrowing the focus to one domain, and attaining competence in this domain. The disturbed eating patterns are perpetuated by cognitive distortions and value to both the individual and the family. The (semi)-starvation, when coupled with impulse control problems can result in *bulimia* nervosa. The body's response to this semi-starvation suggests a psychobiological role in the eating disorders, though evidence is still unclear. Similarly, genetic factors mediate this process, although the exact role is unclear.

The above review highlights the circularity of an aetiological discussion on eating disorders. However, a circular feedback model is appropriate (see Slade, 1982 for example). The challenge lies in identifying the primary *causative* factors. Hsu (1990) has stated that psychiatric symptoms, such as *social anxiety*, when coupled with dieting, contribute to an eating disorder. Alternatively, Mizes (1988), suggests that social anxiety, and eating disorders, are both manifestations of *self-worth* concerns.. A consideration of social anxiety aetiology will help our understanding of the relationship between social anxiety and eating disorders.

3. Social Anxiety

Some concern over how we appear to others is a normal experience. Many of us will have been in situations where we are concerned about the impression we are giving, and perhaps feel a little uneasy that it may be the wrong impression. Maybe we feel somewhat nervous and embarrassed when becoming the focal point of attention. For some people, this concern with others' evaluations becomes pathological. This section reviews the literature pertaining to definitions, symptomatology, epidemiology and aetiology of social anxiety. The focus will be on the self-presentational perspective of Schlenker and Leary, (1982). Again, treatment is beyond the scope of this study. Readers are referred to Schlenker and Leary, (1982), Leary, (1983a) and Leitenberg, (1990), for a comprehensive review of social anxiety.

3.1 What is social anxiety?

Simply speaking, social anxiety refers to fear of interpersonal evaluation. It is important not to confuse social anxiety with related constructs, such as introversion, (enjoyment of being alone), reticence (absence of free communication), or shyness. Shyness is an ambiguous term according to Leary (1983a) and refers to both anxiety and inhibition in social situations. The central feature distinguishing social anxiety from these constructs is not the behaviour of the individual, but, as Leary defines it, the anxiety arising from the "...prospect or presence of *interpersonal evaluation* in

real or imagined social settings" (1983a, p14; italics added).

It is natural to assume that it is the concern over *negative* evaluation from others that produces the anxiety. This is supported by the persistent interchange of the terms 'fear of negative evaluation' and 'social anxiety' in the literature, (see Trower and Gilbert, 1989; Turner et al.,1989, p36; Trower et al., 1990; Bulik, et al., 1991, for example). Indeed, self-esteem theory assumes that individuals are motivated to enhance self-esteem, thus desiring favourable evaluations, and fearing negative evaluations, from others. However, self-*consistency* theory assumes individuals are motivated to preserve self-consistency and thus desire interpersonal evaluations that are consistent with self-evaluations. For example, someone with poor self-evaluations will feel uncomfortable accepting compliments[5]. It is likely that both motives exist but operate under different conditions (O'Connor, 1991). Furthermore, Arkin (1987) suggests that individuals are not always concerned with creating favourable impressions. Thus we will assume that 'negative evaluation' is a subjective judgement made by each individual, and refers to *any impression that is not desired* by the individual. For the purposes of the present study, Leary's definition will be adopted, as it encompasses 'fear of *negative* evaluation'.

A brief comment on the nature of social *phobia* and the comparison with Leary's definition of social anxiety is relevant here. Leary refers to social phobia as severe social anxiousness. Support for Leary's view that social phobia and social anxiety measure different levels of the same construct is given by the persistent interchange of the terms social anxiety and social phobia in the literature, (see for example, Levin, et

[5] See Jones (1973) for a comparison of these theories.

al., 1989; Hope et al., 1989; Nichols, 1974, in Mattick, 1990). Turner and Beidel (1989), in a discussion on diagnostic issues relating to social phobia, note that the term social anxiety is a generic one, encompassing a general "fear of negative evaluation" (p7), with social phobia implying a greater degree of impairment (pp7-8). As they note, concerns with social evaluation are the bases of the fear in both cases. Trower et al. offer further support , noting that social anxiety is a "generic term", with social phobia representing the "severe clinical end of the spectrum" (1990, p12).

However, consideration of the DSMIII-R definition of social phobia highlights an apparent distinction between the two. Social phobia is defined as the "...persistent fear of one or more situations...in which the person is exposed to possible scrutiny by others and fears that he or she may do something or act in a way that will be humiliating or embarrassing." (APA, 1987; p243).[6] This additional qualification - fear of *acting* in an embarrassing or humiliating way - is not explicit in Leary's definition of social anxiety. However, the DSMIII-R definition does imply that the socially phobic individual fears interpersonal evaluation. More importantly, the measure adopted in the present study was designed to measure a general fear of interpersonal evaluation, (see Section 6.2.3). Nevertheless, this additional aspect highlights the problems in diagnosis of social phobia and the need for further clarification.

Social phobia can refer to either specific or general fears, (APA,1987; Trower et al., 1990; Mattick, 1990). As noted above, the present study is concerned with *general* evaluation fears. Henceforth, the all-encompassing term social anxiety is adopted, as referring to a general fear of interpersonal evaluation. It is this fear that is of interest

[6] Diagnostic criteria for social phobia are presented in Appendix 4.

to us. The term social phobia refers to more severe forms of social anxiety, and can include specific fears.

Different forms of social anxiety have been identified by Schlenker and Leary (1983). *Interaction anxiety* is an example of social anxiety experienced when your behaviour is contingent upon another person's response. *Audience anxiety* refers to social anxiety occurring in non-contingent encounters. Although the nature of these encounters differ, and different self-presentational skills are required, the same antecedents, as later outlined, affect both situations. The common denominator is still fear of interpersonal evaluation. Furthermore, both forms of social anxiety share common symptomatology, as outlined below.

3.1.1 Symptomatology

Social anxiety is characterised by physiological symptoms such as tachycardia, and sweating (Leary, 1983a). Although these reactions are symptomatic, they also exacerbate the social anxiety, as individuals may feel anxious that these symptoms will be noticed. Thus a vicious cycle ensues. Likewise, behavioural symptoms can exacerbate the anxiety. In severe social anxiety, individuals avoid social situations, thus affecting social and occupational functioning. In less severe cases, disaffiliation is still present, but is more subtle. For example, Leary (1983a) notes that reduced eye contact and verbal behaviour occur. It should be noted that socially anxious individuals *desire* interaction; disaffiliation occurs as a result of the social evaluative fears.

This desire for interaction, and the anxiety the interaction (or prospect of) arouses,

distresses the socially anxious individual, who is aware that the reaction is unreasonable. The aversive cognitive and affective reactions, such as negative self-statements (see for example, Cacciopo et al., 1979; Lake and Arkin, 1985; Turner et al., 1986), can also intensify the anxiety.

Socially anxious individuals may experience additional psychopathology. More insight can be obtained from examining comorbidity studies. That social anxiety is more prevalent in certain (patient) populations raises important aetiological questions. The prevalence among the 'general population' is outlined below.

3.2 Epidemiology

There is a paucity of epidemiological information focussing specifically on social anxiety, when compared to the eating disorders. However, some consistent findings have been noted. Prevalence rates of social phobia in American samples have been estimated at 2-3% (Turner and Beidel, 1989; Schneier et al, 1992) An epidemiological study in Christchurch, New Zealand, found a prevalence rate of 3% (Wells et al., 1989). Age of onset is typically early-mid adolescence (Bruch, 1989; Turner and Beidel, 1989; APA, 1987).

Epidemiological studies examining gender differences in prevalence yield conflicting results. In a study involving 13,000 subjects in the community, Schneier et al. (1992) found that almost 70% of those meeting DSMIII-R criteria for social phobia were women. This contrasts with clinical reports and previous studies suggesting social

phobia is more common among males, (eg Solyom et al, 1986, in Schneier et al., 1992). Turner and Beidel (1989) conclude that males have a slightly higher prevalence rate than females. Likewise, the prevalence of social phobia among different socioeconomic classes has yielded inconclusive results. Schneier et al report that social phobia was more common among the lower socioeconomic classes. Clinical samples find that social phobia is more common among higher socioeconomic classes. Schneier and his colleagues do not attempt to explain this discrepancy except to note that it may reflect different tendencies to seek treatment.

Thus we can conclude that severe social evaluative fears, which affect approximately 2% of the population, begin to appear around early adolescence. Although equal proportions of males and females appear to be affected, this is not conclusive. Section 3.3 presents a review of aetiological theories on social anxiety.

3.3 Theoretical perspectives/aetiology

The following review of social anxiety aetiology will focus on the self-presentational perspective, (Schlenker and Leary, 1982; Leary, 1983a). This theory suggests that people experience social anxiety when they are motivated to present a particular impression but doubt their ability to do so. Reasons for this focus will later become clear - the review presented below will be integrated with the review of eating disorder aetiology, (section 2.3) and a possible explanation for the coexistence of these two disorders will be advanced. Thus, the structure and approach in this section is similar to that of section 2.3. First, the biological perspective will be

outlined. Following this, a review of genetic factors, and environmental influences of the family will be presented. The societal role in social anxiety is noted in the evolutionary perspective proposed by Trower et al., (1990). This theory also considers individual factors, integrating components of the final model outlined - Schlenker and Leary's self-presentational model.

3.3.1 ***A biological perspective***

The importance of isolating aetiological factors specific to *social* anxiety was noted by Levin et al., (1989) in a review of biological factors in social phobia. This is briefly outlined below. Readers are referred to the article for more detail.

Levin et al., (1989) note that biological investigations provide some evidence for a distinction between social phobia and other anxiety disorders. For example, Liebowitz (1984,1985, in Levin et al., 1989), found that lactate infusion precipitated panic attacks in panic disorder patients, but not social phobic patients.

Also of interest is the differential response to social interaction between social phobics and normal controls. Beidel et al.,(1985, in Levin 1989), found that social phobics showed a greater increase in heart rate and systolic blood pressure than normal controls. However, Levin reports that during performance both normal controls and social phobics exhibit similar symptoms (palpitations, trembling). These symptoms are consistent with an increase of peripheral catecholamines. Levin and colleagues suggest that the subjective and behavioural aspects of social phobia are not related to this catecholamine response. Thus the differentiating factor is the *subjective* reaction to the physiological symptoms. Social phobics fear recognition of these

symptoms by others. Evidently, additional factors, such as familial influences, explaining this fear must be outlined.

3.3.2 Familial factors in social anxiety - genetic and environmental

Familial antecedents of social anxiety were reviewed in a comprehensive article by M. Bruch (1989). Given the scarcity of empirical investigations into familial factors and social anxiety, Bruch's discussion is largely based on studies involving shyness. Although he concedes that shyness does not necessarily lead to social anxiety, both involve concern over social evaluation. Thus, familial factors related to these concerns are relevant here. They include parental characteristics, and the nature of the parent-child interaction.

Parents who are low in sociability may avoid social contact for themselves (and hence child); thus impeding acquisition of social skills for the child. The resultant uncertainty regarding the most appropriate response and how to execute it will increase fear of negative evaluation. Moreover, lack of exposure to novel social situations hinders the possibility of existing social fears being extinguished. These existing social fears could be attributed to parental communication (to the child) that the opinions of others are of great importance.

Two characteristics of parent-child interaction that have been identified as contributing to shyness are overprotectiveness and parental rejection of the child. Bruch does not elaborate on these aside from noting that overprotection may contribute to dependency, and rejection may encourage a preoccupation with others'

evaluations. Accepting Leary's theory (later outlined) we could speculate that overprotectiveness contributes to a reliance on others, including their opinions as a measure of self-worth, hence a high-level of self-presentational motivation. Doubt about creating desired impressions could also be related to low self-esteem, partially arising from parental rejection, (see Litovsky and Dusek, 1985) Clearly, more work is needed in this area to elucidate on these factors.

Similarly, more research focussing on the genetic components of social anxiety is needed. However, as Bruch noted, a review of the literature shows that shyness has an inherited component. Bruch concludes by noting that socially anxious individuals may inherit a genetic predisposition to experiencing anxiety with the environment determining how this is actualised, (for example into *social* anxiety). This argument is supported by Turner and Beidel, (1989). Turner and Beidel conclude that the exact role of familial factors in social anxiety aetiology is unclear. In the absence of relevant empirical evidence focussing specifically on social anxiety, we must accept this conclusion as applying to the family environment *and* genetic factors.

Although the heritability of social anxiety is unclear, Trower, Gilbert and Sperling (1990) have developed an evolutionary model of social anxiety which warrants further consideration. Their model is outlined in the following section.

3.3.3 An evolutionary approach to social anxiety

The basic tenet of this model is that social anxiety evolved as an integral part of group living. Group members occupy different roles within the group, which is perceived (not unreasonably) by socially anxious individuals in terms of dominance hierarchies.

It is the individual's concern with their place in the dominance hierarchy that produces social anxiety. That is, socially anxious individuals fear interpersonal evaluation as it may threaten their status within the hierarchy. Turner and Beidel (1989) offer support for this basic idea when they note that social anxiety appears when individuals are faced with the task of establishing their role within society.

Simply speaking, social anxiety is a defence reaction to a perceived threat to one's status within the hierarchy. Socially anxious individuals are biologically prepared to perceive and interpret social reality in terms of this hierarchy, and focus on themselves when they believe their status is threatened. This belief arises out of their tendency to misinterpret social cues as threats to one's status. The interpretation of social reality involves appraising the situation and comparing it with an ideal standard (which is to be more dominant). The socially anxious individual has low expectations of achieving this (high) standard. Discrepancies result, producing a biologically prepared self-focus and defence reaction. This involves an attempt at avoiding negative evaluation and loss of status. The individual will disengage from the dominance position and act to appease the dominant individual. Avoidance strategies may be adopted, if the individual believes that the anxiety they are experiencing will interfere with their self-presentation.

The sociobiological basis of this model is well outlined by Trower et al. (1990). The need for status and recognition is also consistent with motivational theories, such as Maslow's (1970, p45). Furthermore, that discrepancies from desired standards produce an aversive self-focus and desire to 'escape' is a central idea in other theories of psychopathology, such as Heatherton and Baumeister's (1991) escape theory. However, this model was recently developed, hence there has been little opportunity

to develop a base of empirical support. While the model explains the existence of social anxiety (as an adaptive strategy) in society, it does not explain the factors contributing to different *individual* reactions to perceived threat. The theory proposed by Schlenker and Leary (1982), outlined below can enlighten us.

3.3.4 Self-presentation and social anxiety

The self-presentational perspective advocated by Schlenker and Leary (1982, and Leary, 1983a) asserts that people experience social anxiety when they are motivated to present a particular image and doubt their ability to do so. Individual differences in social anxiety are attributed to differences in basic psychological characteristics contributing to this motivation and/or doubt.

Leary defines self-presentation as "...the attempt to control the self-relevant images one projects to others" (1983a, p60). This attempt is not unreasonable when one considers the interdependence of social exchange, and the evolution of group living (see Trower et al., 1990). The 'desired image' (involving one, several, or all dimensions of the self) represents an internal standard with which the reactions of others are compared. According to Schlenker and Leary, falling short of this standard (or expecting to) - ie. perceived doubt - can be perceived as a threat to ones identity, (hence the motivation to reach the standard). The socially anxious individual, in response to this threat, takes the 'safe way out', and acts to avoid this disapproval. That is, they adopt a protective self-presentational style (see Arkin, 1987). This in turn intensifies the problem. Research supporting this concept is documented in Strauman, (1989). Parallels with the evolutionary theory can be noted. Anxiety

arises out of a perceived threat to identity which Trower et al. define in terms of status. Having explained the process by which social anxiety arises, Schlenker and Leary identify those factors contributing to individual differences in the frequency and intensity of socially anxious experiences.

Self-presentation goals may differ across situations and individuals and include for example, impressing a prospective employer to obtain a job, or impressing others in order to boost your own self-esteem. Different factors contributing to the importance of the valued outcome(s), (ie. motivational factors), include the characteristics of the other interactants, and importance of the presented image to the self-concept. Motivation will be highest when the other interactants (real or imagined) are held in high esteem (for example those in authority). Motivation level will also be highest when the dimension of the self being presented is important to one's self concept (eg. being kind), and the individual is characterised by a high level of public self-awareness, ie. awareness of the self as a social object.[7]

Research shows that when individuals are publicly self-aware they are more conscious of others' evaluations, and this increases self-presentational motivation, (Leary, 1983a). Interestingly, Leary notes that when individuals perceive their physical characteristics (such as "a few extra pounds", 1983a, p75) as attracting others' attentions, public self-awareness is high. Differences in public self-awareness can also arise out of familial factors (such as modelling parental concerns with others' evaluations). Likewise, Leary notes that the need for others' approval is strongly

[7] Leary distinguishes between private self-awareness (ie. what the individual is aware of, the internal self) and public self-awareness (awareness of the self as a social object).. Although these are not mutually exclusive, Leary notes that it is public self-awareness that is related to social anxiety.

related to rejecting parental styles.

Self-presentational motivations are necessary but not sufficient to produce social anxiety; doubt is also required. An individual's doubt about their ability to present the desired image can arise out of uncertainty relating to a) the nature of the impression required to achieve their goal, and b) their ability to create that impression. Leary notes that ambiguous cues (such as role uncertainty faced in adolescence) and situation novelty contribute to uncertainty over the nature of presentation required. (Note that the confusion over how best to achieve self-presentational goals, can direct the individuals attention to resolving this issue. Thus, an increase in public self-awareness results, thereby also increasing the self-presentational *motivation*).

Self-esteem, body-satisfaction and the self-presentational perspective on social anxiety

Although there is an undisputed relationship between self-esteem and social anxiety (see for example, Leary, 1983a; Schneier et al., 1992), Leary states that low self-esteem is neither necessary nor sufficient to produce social anxiety. He suggests that low self-esteem contributes to social anxiety only if a) it fosters a belief that *others* will also evaluate you negatively, or b) negative self-perceptions are relevant to important personal attributes being evaluated.

Schlenker and Leary suggest that those with low self-esteem are likely to believe that others will evaluate them negatively. That is, low self-esteem contributes to doubt about one's self-presentational ability, ie low self-presentational efficacy. This could be due to perceived inadequacy regarding social skills, or, a belief that others will be

aware of your negative qualities, or, learning from past rejection. (Negative evaluations received from others may lower self-esteem and lead one to expect that this experience will be repeated). In addition, as noted, those with low self-esteem may rely on others' evaluations as an indicator of worth, increasing self-presentational motivations. Furthermore, self-esteem may largely be determined by the salience of one dimension of the self; thus dissatisfaction with one aspect of the self may increase self-presentational doubts by lowering global self-evaluation. Alternatively, as I have noted above, Leary suggests doubt may arise from a belief that this *dimension* will be evaluated negatively.

One aspect considered relevant as a determinant of self-esteem, and social anxiety, is body-satisfaction. The positive relationship between body-satisfaction and self-esteem, while significantly stronger for those with eating disorders, has also been documented among those without eating disorders, (Ben-Tovim and Walker, 1991; Garner and Garfinkel, 1981; Eldredge et al., 1990; Streigel-Moore et al., 1993). Likewise, there is an inverse relationship between body-satisfaction and social evaluative fears, (Theron et al., 1991; Hart et al., 1989; Streigel-Moore, et al., 1993).

To summarise, the value of the self-presentational perspective lies in the identification of factors contributing to self-presentational motivations and low outcome-expectancies (ie doubts), which, when experienced together, result in social anxiety. These factors include global self-evaluations and dissatisfaction with specific aspects of the self.

3.3.5 ***Aetiology of social anxiety - a summary***

The aetiological explanations presented above can be combined to form a coherent theory of social anxiety and explain why some individuals experience the general fear of interpersonal evaluation more often, and more intensely than others. The importance of interpersonal evaluations - evident in self-presentational motivations - has arisen from the evolution of group living, and is present in today's society (for example when establishing role identity in adolescence). Doubt about the outcome of these important evaluations produces (social) anxiety, and a desire to escape when these evaluations do not meet an individual's own personal standards. While the role of biology and genetic factors in this *social* anxiety is unclear, it is evident that environmental influences (such as familial factors), contribute to the development of individual differences. These factors are linked to more fundamental psychological differences - such as high public self-awareness and low self-esteem which contribute to both the motivation to present a desired impression, and doubt about one's ability to do so.

Social anxiety is perpetuated by the social withdrawal that often results. Loss of social contact contributes to self-presentational doubts as well as exacerbating general psychological distress in those who desire such contact. Hsu (1990) noted that social withdrawal is also symptomatic of eating disorders. The coexistence of eating disorders and social anxiety is the focus of the following chapter.

4. Comorbidity
Social Anxiety and Eating Disorders

The preceding chapters have highlighted some commonalities between social anxiety and eating disorders. The focus in the present section is to consider these commonalities. The small body of literature examining clinical comorbidity will be documented and a possible explanation for this comorbidity will be suggested.

4.1 Comorbidity

Social fears as symptomatic of eating disorders has been well documented (Strober, 1980; Gross and Rosen, 1988; Hsu, 1990; Streigel-Moore et al., 1993). However, there has been little attempt at explaining these observations. Likewise, there has been little empirical investigation into the clinical comorbidity of social anxiety and eating disorders *specifically*. Research examining the comorbidity associated with social anxiety/phobia tends to focus on other anxiety disorders and personality disorders, rather than eating disorders. For example, when discussing comorbidity of social phobia, Schneier et al., (1992) did not include the category of eating disorders. The reasons for this are unclear, especially when one considers that they found social phobia was most prevalent among young females ie. the population most at risk for eating disorders. Likewise, Turner and Beidel (1989) omit eating disorders in their discussion of social phobia comorbidity. When eating disorders *have* been

considered, findings have been largely ignored. Van Ameringen et al., (1991) noted that 7% of socially phobic subjects had an eating disorder. This fact was however, overlooked in their discussion, which focused on anxiety and affective disorders in general.

Likewise, until recently, comorbidity studies of eating disorders have paid relatively little attention to social anxieties, focussing primarily on affective and addictive disorders. Although Halmi et al., (1991) found that social phobia was present in 34% of anorexic patients and 21% of bulimics, they failed to adequately discuss this finding. Brewerton et al note that this finding should not be attributed to fear of eating in public, as this is one of the "exclusion criteria" (1993, p70) for social phobia outlined in the DSMIII-R. In addition, Brewerton and colleagues found that 17% of female bulimics they studied met criteria for social phobia.

Perhaps one of the most encouraging studies was that conducted by Bulik et al., (1991). These authors examined social anxiety among anorexics, bulimics, social phobics, and women free of psychopathology. Although social phobics exhibited the most extreme level of social anxiety, they noted that the social fears experienced by those with eating disorders were equal in intensity to those of social phobics, ie. both groups "...exhibit a similar degree of social distress" (pp208). Furthermore they found that social fears of anorexics and bulimics were *not* limited to fears concerning eating, drinking, and scrutiny of one's body, but generalised across several social situations. The authors noted the importance of identifying the factors contributing to social distress in eating disorder patients; this was the focus of the present study. In addition, the present study differed from those mentioned above in that it examined comorbidity among a New Zealand sample.

Bulik and colleagues were primarily concerned with the aetiological role of social anxiety in eating disorders. This is in concordance with Hsu's (1990) assertion that social anxieties can contribute to the development of an eating disorder. Hsu also noted that social withdrawal increased with weight loss, suggesting that eating disorders intensify social fears.[8] However, as noted, common factors may underlie both social anxiety and eating disorders. For example, Hamilton et al. found that social anxiety and dieting concerns were *not* related, when statistically controlling for the relationship of each with public self-awareness. They note that public self-awareness is characterised by a "...concern for one's outward appearance" (1992, p164), of which body-satisfaction is a component. We have seen above, in Sections 2.3.5 and 3.3.4 that this is intricately linked to self-esteem. Thus, poor body-satisfaction and self-esteem may contribute to comorbidity. Indeed, Mizes, (1988) suggested self-worth concerns can be manifested in eating disorders or social problems. In the following section, information presented thus far is integrated, to provide us with a background from which to consider the present study.

4.2 Explaining the comorbidity

It is evident that social anxieties and eating disorders are intricately related. Clearly, concerns over self-presentation and interpersonal evaluation can motivate and

[8] Interestingly, Bulik et al. (1991) found no difference in social fears as a function of weight loss, noting that longitudinal studies are necessary to examine social fears as the patient recovers. It should also be noted that weight in this case was not a necessary indicator of eating disorder psychopathology, as anorexic and bulimic groups were combined.

reinforce disturbed eating patterns; anorexics and bulimics do not want to present a 'fat' image! The thought that they may do so, will increase the social anxiety they feel at the prospect of being evaluated. The relationship appears to be one of reciprocal causality. However, despite this seemingly obvious conclusion, this has yet to be adequately tested. It is also possible that comorbidity may arise out of common aetiological factors, as considered below.

Eating disorders and social anxiety both arise out of similar circumstances - a (perceived) inability to cope with similar environmental demands. In general, social anxiety and eating disorders both appear in adolescence when the individual is faced with tasks such as adapting to maturational demands, and establishing (and presenting) an identity and 'place' within society. These may be intensified by familial factors, such as overprotection contributing to the need for a separate identity. Societal and familial factors interact with individual characteristics to provide some standards for the individual by which to measure her success. However, the uncertainty associated with these demands contributes to the interpersonal conflict of the adolescent, producing self-doubts about the her competence at the task. She may adopt ineffective coping strategies, characterised by uncertainty, negative affect, distorted cognitions, and a desire to avoid the situation. This is partially attributed to, and intensified by poor self-evaluations.

Figure 1, below, illustrates this process for eating disorders and social anxiety separately, showing how psychopathology develops in each case, and highlights the similarities. Self-evaluations impact upon the individual at various stages of this process. They can be global, such as overall self-esteem, and/or more specific, such as body-satisfaction.. The *focus* of self-evaluations may help determine which form of

psychopathology results, and whether comorbidity develops. This is considered in the present thesis..[9]

[9] Note that an individual could progress along both paths, hence, comorbidity develops. Furthermore, this general model outlined could be applied to other forms of psychopathology as well. For example, Baumeister (1990) noted that suicide arises from an attempted escape from aversive self-awareness when one fails to meet standards. In this case, the focus of the aversive self-awareness - *helplessness* - contributes to depression and suicidal motivations.

Eating Disorders		Social Anxiety
Establishing unique role/identity within society. Focus on gender role.	**Ultimate Motivation**	Establishing unique role/identity within society. Focus on status within society.
High standards; competence largely measured by control over eating and body, thus the individual diets.	**Standards and means to achieve goal**	High standards; competence assessed by others' (perceived) evaluations, focus on self-presentations.
Social and sexual uncertainties. Self-presentation as feminine, yet strong and mature.	**Basis of doubt**	Nature of presentations required to avoid negative evaluations, doubt concerning ones self-presentational ability.
Despite an initial 'success' with weight loss, high standards and poor self-evaluations contribute to perceived failure, eg not thin *enough*. Aversive self-awareness and affect results, with a focus on one's body.	**Perceived failure**	High standards and poor self-evaluations contribute to perceived (expected) failure. Aversive self-awareness and affect results. The individual feels socially anxious.
Pathological response. Escape - avoidance of situation (ie denial of maturity by dieting) and avoidance of aversive reaction (through narrow attentional focus on food and weight).	**Resolution**	Pathological response. Escape - avoidance of situation (ie escape interpersonal evaluations) and (attempted) avoidance of anxiety, both by reducing social contact.
Environmental and cognitive factors contribute to positive and negative reinforcement of behaviour. Symptoms intensify aversive self-awareness.	**Perpetuation of Psychopathology**	Avoidance of social contact is negatively reinforced through reduction in anxiety, and contributes to ones doubt about self-presentational ability. Aversive self-awareness is intensified.

***Figure 1**: Comparison of the progression towards psychopathology: Eating Disorders and Social Anxiety*

4.2.1 The role of body-satisfaction and self-esteem in comorbidity

To reiterate, poor self-evaluations influence various stages of the above process. For example, those with low self-esteem may rely on competency at achieving set tasks to 'boost' esteem. It is hypothesised that comorbidity arises out of the *combination* of poor body-satisfaction and low self-esteem. Below, I outline three scenarios, and how they contribute to the manifestation of psychopathology into an eating disorder and/or social anxiety. It should also be noted that the presence of either disorder may contribute to the development of additional psychopathology, through the negative impact on relevant self-evaluations.

A: ***Poor body-satisfaction and poor self-esteem.***

Individuals for whom a) body-satisfaction is a salient determinant of self-esteem, and b) body-satisfaction and thus self-esteem are poor, are at risk of developing both eating disorders and social anxiety. They may become concerned with others' evaluations *and* thinness as a measure of self-worth and competence. Additionally, thinness may become the means for achieving self-presentational goals. Aversive self-awareness resulting from perceived or expected failure intensifies the focus on body-satisfaction (and thus pathological eating patterns) *and* self-esteem, both of which increase self-presentational doubts (and thus social anxiety). Note that in eating disorder patients, body-satisfaction and self-esteem are generally both poor, hence the high comorbidity rates.

B: ***Poor body-satisfaction***

In contrast, individuals with poor *body-satisfaction* but high global self-esteem may begin to diet. If certain risk factors contributing to the development of

psychopathology are present, this focus on her body may result in development of an eating disorder. However, because of a high global self-esteem, she may have confidence in her self-presentational abilities, believing for example, that others will evaluate her 'personality' positively. Thus, although the state of social anxiety may arise if the individual believes her *body* is being evaluated, dispositional social anxiety is less likely to develop concurrently.

C: Poor self-esteem

Likewise, an individual who experiences *low self-esteem* and whose body-satisfaction is a) high, *or* b) low, but relatively unimportant as a determinant of this self-esteem, will presumably not be motivated to become thin. Thinness as a measure of worth/competence will be ineffective, as low self-esteem exists *regardless* of body-satisfaction level. Thus when faced with the conditions under which social anxiety is likely to develop, eating disorders are unlikely to develop concurrently. The individual is primarily concerned with others' evaluations, and this concern contributes to the likelihood of social anxiety developing.

This idea forms the basis for the present study, and is further discussed in Chapter 10. Design features and specific predictions relating to the questions presented in Chapter 1, are presented in the following Chapter.

5. The Present Study

5.1 Aims and design features

The central aim of this study was to explore the link between eating disorders and social anxiety. More specifically, the present study aimed to improve upon existing research by identifying, and comparing, those factors predictive of social anxiety among disordered eaters and those without disordered eating attitudes. Specifically, I considered different levels/characteristics of negative self-evaluations, ie body-satisfaction and self-esteem, as predictors of social anxiety for each group. This also enabled us to identify which factors distinguished socially anxious disordered eaters from *non*-socially anxious disordered eaters. While there exists some research documenting comorbidity, these factors have yet to be identified. These questions were considered from the administration and analysis of questionnaires measuring these four variables, to a non-clinical population.

Streigel-Moore et al. (1993) note the importance of investigating non-patients who score highly on eating disorder measures, noting the subclinical, or pre-clinical nature of their experience. Likewise, Bulik et al. (1991) acknowledge the high presence of psychopathology in non-clinical samples. Investigation of a non-clinical population with 'abnormal' eating attitudes will provide us with an understanding of psychopathology in the community, and thus further understanding of factors contributing to the development of full clinical syndromes. Henceforth, the term

'disordered eaters' will be used to refer to those likely to warrant diagnosis of an eating disorder, as discussed in Section 6.2.2.

The first aim was to identify the level of disordered eating in the sample. It was expected that this would be relatively high as the population studied - young women - is that most at risk for eating disorders. Additionally, correlations between disordered eating, body-satisfaction, self-esteem and social anxiety could be obtained, to ascertain, if, in fact, eating disorders and social anxiety *were* related in this sample.

Having established correlations between variables for all subjects, I aimed to examine and compare the relationship between all variables for two different groups of subjects, disordered eaters and normals. Initially, correlations between all variables were obtained for each group. This enabled a comparison of the relationship between body-satisfaction and self-esteem. It was expected that they would be strongly related in disordered eaters. As suggested, this relationship is partially responsible for the high level of social anxiety among disordered eaters. However, the main focus was to determine predictors of social anxiety for each group. It was expected that despite the correlation mentioned above, eating attitudes would *not* significantly predict social anxiety, but self-evaluations would. This expectation arose out of the assumptions noted in Section 4.2.1, specifically, when body-satisfaction and self-esteem are poor, comorbidity is more likely to develop.

The comparison between disordered eaters and normals was examined from comparing the nature of these self-evaluations, specifically, whether body-satisfaction contributed to social anxiety *independently* of self-esteem. For all subjects, I expected self-esteem to be a significant predictor of social anxiety. Among

disordered eaters, although it was expected that self-esteem would yield the most predictive power, I also expected body-satisfaction to be a significant predictor of social anxiety.

The final aim was to identify factors distinguishing socially anxious disordered eaters from non-socially anxious disordered eaters. It follows from the predictions above that these groups could be distinguished on the basis of their body-satisfaction and self-esteem levels. However, it was expected that global self-esteem level alone would distinguish between these two groups. Body-satisfaction was expected to be poor among all disordered eaters, therefore would have had little utility as a distinguishing factor. The purpose of this final aim lay in highlighting the complexity of the relationship between body-satisfaction and self-esteem, and the importance of distinguishing between these two factors.

To conclude, the primary aim of the present study was to offer some insight into the relationship between social anxiety and eating disorders, by focussing on some key contributing factors to psychopathology in the community. Before we can determine the direction of *causality* between related variables (ie. whether one disorder 'causes' another through the symptomatic effect of poor self-evaluation and/or poor self-evaluations 'cause' both), it is first necessary to identify factors common to (and thus possibly explaining) both variables. It was hoped that results obtained in the present study would provide, a) tentative support for the idea that comorbidity arises largely out of common negative self-evaluations, and b), possible directions for future research examining social anxiety in the disordered eater.

5.2 Hypotheses

The aims and predictions noted above, were formulated into the following hypotheses:

1. Eating attitudes would be significantly positively correlated with
   i) social anxiety
   ii) self-esteem
   iii) body-satisfaction

2. The correlation between body-satisfaction and self-esteem is stronger for disordered eaters than normals.

3. Eating attitudes are not predictive of social anxiety for
   i) disordered eaters or
   ii) normals

4. Self-esteem is predictive of social anxiety for
   i) disordered eaters and
   ii) normals

5. Body-satisfaction is predictive of social anxiety for disordered eaters

6. Socially anxious disordered eaters have significantly lower self-esteem than non-socially anxious disordered eaters

6. Method

6.1 Subjects

224 women participated in the study (mean age = 19.4). Subjects were volunteers from two undergraduate psychology courses at the University of Canterbury (n=96) and senior (5th-7th form) high school students selected from six schools in Christchurch (n=128).

In order to obtain a sample representative of all school students in Christchurch, ten high schools were approached to participate in the study. Four single-sex schools and two co-educational schools consented. Of the 128 high -school students participating, 63 attended co-educational schools and 65 attended single-sex schools.[10]

6.2 Materials

Materials consisted of one questionnaire, presented in booklet form to the subjects. The questionnaire was composed of four self-administering Likert scales stapled together with a cover sheet. This cover sheet outlined instructions to the subjects and

[10] A recent Christchurch study found no difference in eating behaviours and attitudes across single-sex and co-educational schools (Fear, 1994).

recorded their age, school or university they attended, and asked whether they were presently receiving treatment for anorexia or bulimia.[11] The scales (discussed below) were always presented in the following order: Rosenberg's Self-esteem, (RSE); Eating Attitudes Test (EAT); Social Phobia and Anxiety Inventory, (SPAI); and Body Shape Questionnaire, (BSQ). Brody et al., (1990) reported that completing additional questionnaires *before* completing self-esteem measures resulted in lower self-esteem scores. Whilst randomising the order of scale presentation may have provided some control for this, the experimenter was concerned that this would translate directly onto *feelings* of low self-esteem for students receiving this scale last. Additionally, the SPAI was inserted between the EAT and BSQ to minimise any effect completion of one of these measures would have on scores obtained in the other.

In addition, space was provided after the final scale for the subjects to add any further comments they felt were relevant. This provided an opportunity for subjects to explain their choices and express their feelings and attitudes, (with regard to the issues being studied, and the methodology used). This was considered important as it increased the subjects' sense of personal involvement and contribution to the research, provided additional interesting and valuable information, and could be used to aid in future research design.

The questionnaire took approximately 30 minutes to complete. A copy is presented

[11] Subjects' weights were purposefully not recorded. Although this may have provided interesting information, the experimenter did not want to communicate to an 'at risk' population that their *weights* (as opposed to their attitudes) were 'important'. It should also be noted that Garner et al (1982) found total EAT scores to be independent of weight.

in Appendix 1. Reliability and validity information for each scale is presented below.

6.2.1 Self-Esteem Scale

Rosenberg's (1965) Self-Esteem Scale (RSE) consists of ten statements measuring global self-esteem. Although each statement requires a response on a four-point scale (Strongly Agree, Agree, Disagree or Strongly Disagree), each item is scored as either 'Agree' or 'Disagree'. There are five positive and five negative statements. Subjects are awarded one point for each negative statement they agree with, and one point for each positive statement they disagree with. Items are then grouped and scored using a Guttman format, providing a possible range of scores from 1-6. A high score indicates low self-esteem.

Although it is brief (thus requiring less time to administer) this scale correlates significantly with other self-esteem measures, for example, Coopersmith's 1967 Self-Esteem Inventory, (Demo, 1985). Melnick and Mookerjee (1991) report a reproducibility coefficient of 92%, coefficient of scalability of 72%, and test-retest reliability of 88%. Furthermore, as well as being a valid and reliable measure of overall self-acceptance (Robinson & Shaver, 1975), the scale was originally developed for use with adolescents, the focus of the present study. Wide use of the RSE enabling comparison across studies is an additional reason for inclusion in the present study.

6.2.2 Eating Attitudes Test

The original Eating Attitudes Test (EAT-40) is a 40-item scale measuring symptoms characteristic of eating disorders (Garner & Garfinkel, 1979). Factor analysis of this scale resulted in construction of a shorter 26-item version, EAT-26 (Garner et al.

1982), used in the present study. The EAT-26 correlates highly with the EAT-40, (r =.98, Garner et al, 1982).

Items on the EAT-26 are answered on a six-point scale from 'Always' to 'Never' with the most 'symptomatic' response receiving a score of three. The two adjacent responses score two points and one point respectively, allowing a total possible score of 78. Both the EAT-40 and EAT-26 scores can be used to reliably identify groups with 'abnormal' concerns with eating and weight (Garner and Garfinkel, 1979; Gross et al., 1986; Hesse-Biber, 1991; Chandarana et al, 1988). The EAT is reported to have good discriminant validity, measuring symptoms found most commonly in eating disordered populations, and does not just reflect dieting, weight fluctuations or neuroticism (Garner & Garfinkle, 1979). Results show that by employing a cut-off score of ≥ 20 on the EAT-26, 84% of subjects could be correctly classified into either an eating-disordered group or a control group (Garner et al., 1982).

Factor analysis showed items can be grouped into the following three factors:

Factor I (13 items) Dieting. This represents an avoidance of fattening foods and a preoccupation with thinness.

Factor II (6 items) Bulimia and Food Preoccupation. This represents bulimic behaviours and preoccupation with food.

Factor III (7 items). Oral Control. This relates to self-control of eating and "perceived pressure from others to gain weight" (Garner et al, 1982; p873).

Although bulimics score significantly higher on Factor II and lower on Factor III than

restricters, total EAT-26 scores for bulimic and restricter subtypes of anorexia nervosa do not differ, thus total scores are considered in the present study.

In conclusion, although not used as a clinically diagnostic tool, the EAT-26 demonstrates good predictive ability in non-clinical samples, has high concurrent validity, high internal reliability, and is an economical measure of symptoms of eating disorders.

6.2.3 Social Phobia and Anxiety Inventory

The Social Phobia and Anxiety Inventory (SPAI, Turner et al., 1989) is an empirically derived scale designed to assess the severity of cognitive, behavioural and somatic symptoms specific to social fears. The scale discriminates between generalised anxiety and the more specific social anxiety by utilising subscales which control for social anxiety that is secondary to agoraphobia (Bulik et al., 1991).

The SPAI consists of 45 items measured on a 7-point Likert scale from Always (7pts) to Never (1pt). The first 32 items measure social phobia (Social Phobia subscale, SP) while the last 13 items (Agoraphobia subscale, AG) reflect symptoms experienced by those with panic disorder with agoraphobia. The total for AG is subtracted from the SP total to obtain a difference score, a pure measure of social phobia. Use of the difference score is based on theoretical and empirical findings that panic disorder and social phobia may overlap; thus providing a measure of anxiety specific to social situations. In addition, 17 items on the Social Phobia subscale have four components, enabling discrimination between social anxieties involving a) strangers, b) authority figures, c) opposite sex, and d) people in general. A mean score is calculated over the four components for each of these items. Similarly, the mean is also calculated for

the physiological and cognitive questions which require separate ratings.

In section 3.1, I discussed the terms social anxiety and social phobia. Turner et al., have adopted the DSMIII-R definition of social phobia. However, although the scale does include particular items pertaining to *behaving* in an embarrassing way, the scale was designed to measure the *general* fear of scrutiny and evaluation by others. For example, in a discussion on the psychometric properties of the scale, Turner et al refer to the "fear of negative evaluation" (1989;36) that the scale measures. Furthermore, in an article examining diagnosis of social phobia, Turner and Beidel (1989) stress the importance of the nature of the fear - ie one of interpersonal evaluation. Of particular relevance to the present study, the authors refer to the *social evaluative fears* of anorexics and bulimics measured by the SPAI (Bulik et al., 1991; pp199, 201, 207).

Turner et al., (1989) demonstrated that the SPAI has good discriminative ability across all levels of social phobia, for both clinical and non-clinical groups. Social phobics can be successfully discriminated from normal controls and other anxiety patients on both the SP and AG subscales. Cut-off scores can be applied to classify subjects into 'social phobics' or 'non social-phobics'. Turner et al. (1989) report that among non-clinical samples a cut-off score of 60 is optimal. In a study involving socially phobic and non socially phobic subjects, Beidel et al. (1989) reported an accuracy rate of 74.4% in predicting group membership, which was significantly better than chance. They noted that misclassification may have occurred as the result of low overall scores of socially phobic subjects with only one specific fear. Perusal of individual items can identify this.

The SPAI demonstrates test-retest reliability of .86 and good internal consistency -

alpha = .96 and .86 for the SP and AG subscales respectively (Turner et al., 1989). Furthermore, although some symptoms of social anxiety are internal and not visible to others, moderate correlations were found between subjects' ratings on the SPAI, daily distress ratings, and ratings made by significant others for the subjects, demonstrating external validity of the scale.

Besides being reliable and valid, this scale contains items pertinent to eating disorders - for example, anxiety in a restaurant or eating in front of others. Recent research investigating social anxieties and eating disorders has utilised the SPAI (for example, Bulik et al., 1991). Comparability across studies provides further reason for inclusion of the SPAI in the present study.

6.2.4 Body Shape Questionnaire

The Body Shape Questionnaire (BSQ, Cooper et al., 1987) consists of 34 items designed to measure satisfaction with one's body. The items, encompassing cognitive, affective, and behavioural aspects of body satisfaction are answered on a 6-point Likert scale from 'Always' (6pts) to 'Never' (1pt), with a higher score indicating greater dissatisfaction. The total possible score is 204. Extensive research utilising a variety of methods has investigated both perceptual disturbances in body image and body dissatisfaction (Ben-Tovim & Walker, 1991). These represent distinct constructs (Mable et al., 1986) and the BSQ is designed to measure body (dis)satisfaction. Therefore it was included in the present study, which focuses on the subjective experience of feeling fat, rather than perceptual disturbances of body-image. Furthermore, responses to each item are based on subjects' experiences over the past four weeks, allowing for variations in body satisfaction across situations.

Items on the BSQ were derived after open-ended interviews with both eating-disorder patients and non patients, to include factors the women themselves thought were relevant. The BSQ demonstrated good discriminant validity. Patients scored significantly higher than non patients, and among the non patients significant differences were found in groups showing different levels of concern with weight. Good concurrent validity was also demonstrated among patients and non patients. Scores on the BSQ were significantly correlated with the Eating Attitudes Test for both groups. Patients' scores on the BSQ also correlated significantly with their scores on the Body Dissatisfaction subscale of the Eating Disorder Inventory (Garner et al., 1983).

6.3 Procedure

Copies of questionnaires and a covering letter explaining the research were presented to school teachers and university tutors to obtain permission to approach students. Once permission was given, students were approached during class time. A brief introduction was given by the experimenter. This explained the task and its duration. Students were told that attitudes towards eating and ourselves were being examined, and should they consent, they were required to complete the questionnaire, measuring this. They were told that there were no 'right' or 'wrong' answers, and that they should answer the questions themselves. To avoid further interruption to class time, students who wished to participate were asked to complete the questionnaires at home and were advised of where to return them. No time limit for completion was

given. Subjects were then given contact numbers of support groups.

High school students were also given a consent form to be signed by themselves and a caregiver (as requested by the schools). Students were made aware that this was to be detached from the questionnaire once it was returned, to protect anonymity. They were assured of confidentiality and that their participation was voluntary. The experimenter returned later to give feedback to the group. This involved explaining the study in greater detail, and giving some brief results. Contact phone numbers of support groups were given again.

6.4 Data analysis

Of the 238 questionnaires returned, 14 were rejected as subjects had failed to respond to all items. Thus, 224 questionnaires were scored and analysed . All scales and subscales were totaled. A higher score on each scale was interpreted as more 'pathological'. The questionnaires yielded scores on several (sub)scales for each subject. Initially, the following scales were analysed: self-esteem, eating attitudes, social anxiety, and body-satisfaction, as these were the variables of primary interest. Scores on the additional (sub)scales (dieting, bulimia, oral control, agoraphobia and age) were omitted from the following chapter as they yielded little additional information pertinent to the issues being studied. Results from data analyses conducted on these (sub)scales appear in Appendix 2.

Initially, the following descriptive statistics were obtained for all variables over the entire sample: mean, standard deviation, minimum and maximum values. This provided an overall picture of the level of social anxiety, body satisfaction, self-esteem and eating attitudes in the sample. Multiple Regression analysis on the entire sample yielded Pearson correlation values. This enabled us to establish the direction

and strength of the relationships, and determine if eating attitude scores were positively correlated with scores on the other three scales (Hypothesis One).

To enable comparison of 'disordered eaters' and 'normals', cut-off scores (justified in Section.6.2.2) were used to divide the sample as follows[12]:

N=36 Subjects scoring ≥ 20 on the EAT.
Disordered Eaters

N=188 Subjects scoring < 20 on the EAT.
Normals

To test whether eating attitudes moderated the relationship between body-satisfaction and self-esteem, Pearson correlation values between all variables were calculated for each of the EAT groups. Values between the groups were then compared by performing Fisher's z-transformations to standardise each value. One-tailed tests on the z-scores assessed whether correlations between body-satisfaction and self-esteem were stronger for disordered eaters than for normals (Hypothesis Two)[13]

Having identified which factors correlated with social anxiety for each group, multiple regression analyses were conducted, on each group, with social anxiety as the dependent variable, and eating attitudes, self-esteem and body-satisfaction as the independent variables. This enabled us to identify the relative contribution of each of these variables to predicting social anxiety. Thus we could test Hypothesis 3 - that eating attitudes would not be predictive of social anxiety for either group. This analysis was also used to determine if self-esteem predicted social anxiety for all subjects, and if body-satisfaction predicted social anxiety for disordered eaters (Hypotheses 4 and 5).

Next, the disordered eaters were divided according to cut-off scores (justified in

[12] Although factor analysis of the EAT reveals three distinct factors (see Section 6.2.2), the primary analysis was based on grouping of subjects according to their total EAT score, reflecting overall level of concern with weight and eating.

[13] A one-tailed test was considered appropriate as existing research has repeatedly demonstrated a stronger relationship between these variables for women with eating disorders.

Section 6.2.3) on the Social Phobia subscale (SP) of the SPAI as follows:

N=19 Subjects scoring ≥ 60 on the SP.
Socially anxious disordered eaters.

N=17 Subjects scoring < 60 on the SP.
Non-socially anxious disordered eaters.

Although we had identified which factors correlated with and were predictive of social anxiety for disordered eaters, t-tests comparing mean scores for each variable between these two groups were conducted. As noted in Section 5.1, it was expected that socially anxious disordered eaters would have lower self-esteem than those who were not socially anxious, (Hypothesis 6), but the groups would not differ on their body-satisfaction as this would be low for all.

All statistical tests were carried out using the SPSS-X statistical package.

7. Results

Results are presented in four sections, as outlined below. Complete results from all analyses appear in Appendix 2.

SECTION	TOPIC	HYPOTHESIS(ES)
7.1	Descriptive statistics and correlations for all subjects	1
7.2	Disordered eaters vs normals	2-5
7.3	Disordered eaters - socially anxious- vs non socially anxious	6
7.4	Summary	

7.1 Descriptive statistics and correlations

Table 1 presents means, standard deviations, minimum and maximum values obtained on each of the four scales, for all subjects. It also shows the maximum score possible for each scale. To reiterate, higher scores on each scale were interpreted as more 'pathological', (ie. higher levels of social anxiety and disordered eating, and lower self-esteem and body-satisfaction). (Full descriptive statistics appear in Appendix 2).

Table 1: Descriptive statistics for all subjects. N = 224.

Variable	Mean (M)	Std Dev. (SD)	Min.	Max.	Total possible
Eating Attitudes (EAT)	9.87	11.47	0.00	59.00	78
Social Anxiety (SA)	58.16	27.14	0.00	137.00	192
Self-Esteem (SE)	2.08	1.87	0.00	6.00	6
Body Satisfaction (BS)	102.34	37.35	35.00*	186.00	204

* Minimum possible score = 34.

Subjects generally reported healthy attitudes towards eating, M=9.87, (SD=11.47). As there were several extreme scores for this variable, the median was also calculated; (median=5). This was considerably lower than the score of ≥20 that is indicative of disordered eating attitudes.[14] However, subjects reported high levels of social anxiety. The mean of 58.16 is only slightly less than 60, the cut-off score reported by Turner et al (1989) as optimal for classifying subjects as socially phobic or non-socially phobic. Further examination of the data revealed only one outlier, and a median value of 56.15. Thus it was concluded that in general, subjects displayed a high level of social anxiety. Subjects reported moderate levels of self-evaluations, for both global self-esteem, and body-satisfaction, (M=2.08 and 102.34; respectively). As with the other two variables, a large amount of variation in scores was obtained,

[14] As a large number of subjects scored 0 on this scale, log transformations to normalise the positively skewed distribution were not performed. Note that the main analysis involved two subgroups of subjects for which the distribution of EAT scores approached normality.

(SD=1.87 and 37.35 respectively).

Pearson correlation values obtained for all subjects are presented in Table 2. As shown, all correlation values were significant and positive. Eating attitude scores (EAT) were significantly positively correlated with social anxiety (SA), self-esteem (SE), and body-satisfaction (BS) scores; r=.308, .381, .720 and respectively, p<.001 for all. Thus, Hypotheses One (i, ii, and iii) were supported. Subjects who reported a higher level of disordered eating attitudes reported significantly higher levels of social anxiety, and significantly lower levels of both self-esteem and body-satisfaction.

***Table 2**: Correlations between eating attitudes, social anxiety, self-esteem and body-satisfaction. N=224.*

	EAT	**SA**	**SE**	**BS**
EAT	-			
SA	.308*	-		
SE	.381*	.478*	-	
BS	.720*	.420*	.423*	-

*$p<.001$

Table 2 also shows that social anxiety scores were significantly positively correlated with self-esteem and body-satisfaction scores; r=.478 and .420 respectively; p<.001 for both. Subjects who reported higher levels of social anxiety also reported lower levels of both self-esteem and body-satisfaction. Furthermore, the measures of self-

evaluation (SE and BS) were positively correlated; r=.423; p<.001.

In sum, the results presented in Table 2 show that eating attitudes and social anxiety were related. To test the possibility that this was due to the positive relationship each had with measures of self-evaluation (as shown), multiple regression analyses were conducted. Results for two groups of subjects, disordered eaters and normals, appear in the following section.[15]

7.2 Disordered eaters versus normals

Thirty-six subjects, ie. 16%, scored ≥ 20 on the EAT, (mean = 32) and were classified as 'disordered eaters'. The remaining 188 subjects (84%, mean = 6) were classified as 'normals'.

The purpose of this section was to identify predictors of social anxiety for each of these groups. It was suggested that the relationship between eating attitudes and social anxiety arose out of poor self-evaluations (SE and BS), and that the relationship between these self-evaluations would differ across these group. Thus, before identifying social anxiety predictors, correlations between eating attitudes, self-esteem and body-satisfaction were established for each group.

---

[15] Although grouping the subjects according to EAT score imposed a loss of information on the data by assuming that eating attitudes had only two levels, this grouping was necessary to test the relevant hypotheses. Furthermore, these cut-off scores were justified in Section 6.2.2. Results of multiple regression analyses performed on all subjects appear in Appendix 2.

7.2.1 The relationship between eating attitudes, self-esteem and body-satisfaction

Correlation values between eating attitudes, self-esteem and body-satisfaction, for disordered eaters and normals, were calculated and are presented in Table 3. (Correlations between social anxiety and these variables are presented in section 7.2.2).

***Table 3**: Z-scores showing comparison of correlation values between disordered eaters (N=36) and normals (N=188), for selected variables.*

Variables	**Disordered eaters - r**	**Normals - r**	**z-score**
SE and BS	.036	.356***	-1.78*
EAT and SE	.202	.250***	-0.26
EAT and BS	.401*	.599***	-1.42

** p<.05 **p<.01 ***p<.001*

Among *disordered eaters*, eating attitudes and body -satisfaction were significantly positively correlated. Eating attitudes and self-esteem were positively correlated, although this was not significant. Interestingly, self-esteem and body-satisfaction were *not* correlated among disordered eaters.

Among *normals*, the correlations between eating attitudes and both self-esteem and body-satisfaction were positive and significant. Furthermore, self-esteem and body-satisfaction were significantly positively correlated.

Fisher's Z scores were calculated to test whether differences in correlation values over these groups were statistically significant, when accounting for different sample sizes. A positive z-score indicates a stronger relationship for disordered eaters. As shown in Table 3, there was a significant difference in the correlations obtained between self-esteem and body-satisfaction, $z=-1.78$; $p<.05$. However, this was not in the direction hypothesised, thus Hypothesis Two was not supported. Disordered eaters had a *weaker* correlation between body-satisfaction and self-esteem than normals.

As this result was very surprising, scatterplots were examined to check for a nonlinear relationship between self-esteem and body-satisfaction. This showed *no* association between these two variables for disordered eaters (see Appendix 2). The distribution of scores for each of these variables was then examined . Self-esteem scores were bimodally distributed; this is discussed in Section 7.3, see Figure 2.

To conclude, body-satisfaction and eating attitudes were positively correlated for all subjects. Those with greater dissatisfaction with their bodies had greater concerns with weight and dieting. These two factors were related to lower self-esteem among normals, but not among disordered eaters. Factors predicting social anxiety for each of these groups are noted below..

7.2.2 Eating attitudes, self-esteem and body-satisfaction - predictors of social anxiety?

For each group, social anxiety was regressed on self-esteem, body-satisfaction and eating attitudes, to determine the contribution of these variables to social anxiety scores. For both groups these variables *combined* accounted for a significant

proportion of variance in social anxiety. Among disordered eaters 36% of the variation in social anxiety scores could be explained by the model, (r^2 = .36, $F_{1,34}$ = 11.20;p<.01). Among normals, the model explained 25% of the variation in social anxiety scores, (r^2= .25, $F_{2,186}$=32.44,p<.001).[16] The relative contributions of each variable to the prediction of social anxiety, indicated by beta weights, are considered below.

***Table 4**: Stepwise Multiple Regression Analyses on social anxiety, with self-esteem, body-satisfaction and eating attitudes as the dependent variables; for disordered eaters (N=36), and normals (N=188).*

	Disordered Eaters			Normals		
Variable	**r**	**beta**	**t**	**r**	**beta**	**t**
SE	.50**	.49	3.49**	.44***	.33	4.90***
BS	.36*	.34	2.47*	.40***	.28	4.20***
EAT	.21	-.03	-.22	.31***	.07	0.94

**p<.05 **p<.01 ***p<.001*

Table 4 presents the beta weights and zero-order correlations between each variable and social anxiety. Eating attitude scores were positively correlated with social anxiety for both groups, although this was not significant for disordered eaters. However, as shown, for both groups, the beta weights for eating attitudes were not significant, β= -.03 and .07 respectively; n.s. for both. Thus, Hypotheses 3i and 3ii were supported. Eating attitudes did not significantly predict social anxiety, when

[16] Plots of the standardised residuals against the predictor variables showed no discernible patterns, indicating a good fit of the model

self-esteem and body-satisfaction were partialled out.

Consistent with zero-order correlations, the beta weights for self-esteem remained positive and significant for disordered eaters and normals (β = .49 and .33; $p<.01$ and .001 respectively). Thus, Hypothesis 4 was supported. Low self-esteem was significantly related to high levels of social anxiety, for disordered eaters and normals. Likewise, the beta weights for body-satisfaction remained positive and significant, β = .34 and .28; $p<.05$ and .001 for disordered eaters and normals respectively. This was expected for disordered eaters, thus Hypothesis 5 was supported. This was not expected for normals however. Poor body-satisfaction was predictive of high levels of social anxiety, for both groups.

The beta weights indicate that self-esteem has the strongest relationship with social anxiety for both groups. Alone, this variable accounted for a significant proportion of variation in social anxiety scores, 25% and 19%, for disordered eaters and normals respectively. These figures increased to 36% and 25% respectively, (as noted above) when body-satisfaction was included, thus adding some explanatory power to the model.

In sum, there was little relationship between eating attitudes and social anxiety, when self-esteem and body-satisfaction were partialled out. Eating attitude scores were not predictive of social anxiety for disordered eaters or normals, but self-esteem and body-satisfaction were. For both groups, self-esteem had the strongest effect on social anxiety.[17]

---

[17] Additionally, eating attitudes was regressed on social anxiety, self-esteem and body-satisfaction, results appear in the Appendix 2. As would be expected, body-

7.3 Disordered eaters: socially anxious versus non socially anxious.

Of the 36 disordered eaters, 19, ie 53%, scored ≥ 60 on the social anxiety subscale, (mean = 95) and were classified as 'socially anxious'. The remaining 17 disordered eaters (47%, mean = 42) were classified as 'non-socially anxious'.

To identify factors distinguishing these two groups, mean scores on each variable were compared. Although regression analysis showed that self-esteem *and* body-satisfaction were predictive of social anxiety, it was hypothesised that these groups would differ only in their level of self-esteem, as body-satisfaction would be poor for *all* disordered eaters.

As expected, body-satisfaction was low for those with and without social anxiety, (mean = 156 and 150 respectively). These means were not significantly different, $t=1.85$; n.s. However, disordered eaters with social anxiety had significantly lower self-esteem, than those without, means = 4.47 and 2.24 respectively; $z=-3.15$; $p<.01$.[18] Thus Hypothesis 6 was supported. (This was the only significant difference found; full results appear in Appendix 2).

As noted in section 7.2.1, self-esteem was bimodally distributed amongst disordered eaters, and we expected that those with low self-esteem would be classed as socially

---

satisfaction was a significant predictor of eating attitudes, $\beta=.72$, $p<.001$, and accounted for 52% of the variation in EAT scores. Self-esteem was marginally predictive of eating attitudes. Social anxiety was not a significant predictor.

[18] A nonparametric test was conducted, as scores on this variable were not normally distributed.

anxious. This is supported by the results above, but can perhaps best be understood when viewed graphically. Figure 2 displays the bimodal distribution of self-esteem scores for *all* disordered eaters; and also shows the distribution for each group, non-socially anxious and socially anxious. To reiterate, higher scores are interpreted as *lower* self-esteem.

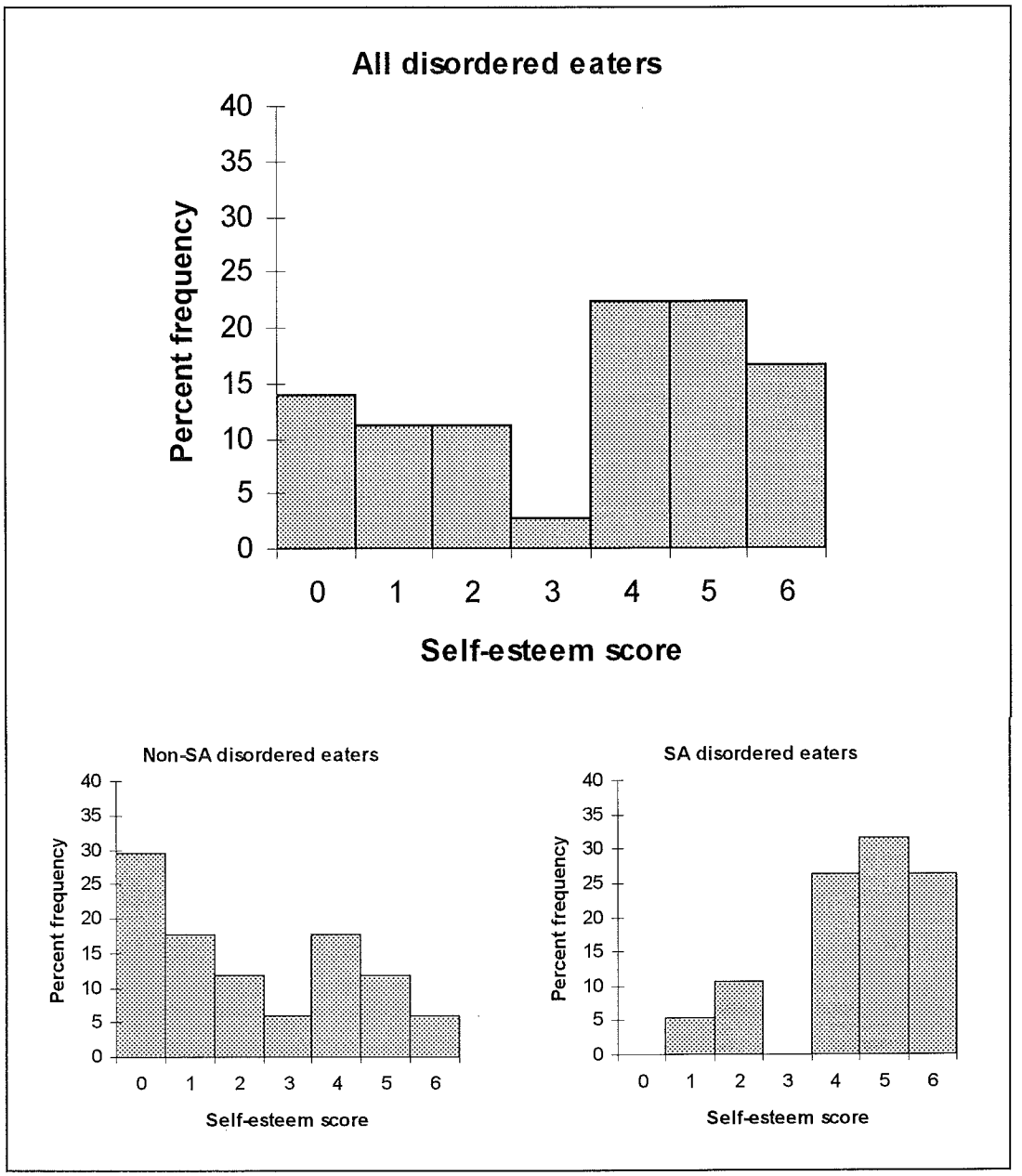

***Figure 2**: Percentage frequency distribution of SE scores for disordered eaters (N=36), and two subgroups: socially anxious and non-socially anxious disordered eaters (N=19 and 17 respectively).*

7.4 Summary

The main results can be summarised as follows:

1. Disordered eating attitudes, high social anxiety, low self-esteem and poor body-satisfaction were related when all subjects were considered.

2. 16 % of subjects were classified as disordered eaters; the remaining 84%, normals, had relatively healthy eating attitudes.

3. Self-esteem and body-satisfaction were not correlated among disordered eaters, but were positively related among normals.

4. Among both groups, these two factors contributed uniquely to prediction of social anxiety scores. Beta-weights revealed that self-esteem accounted for the most variation in social anxiety scores.

5. Eating attitude scores were not predictive of social anxiety for either group, when controlling for self-esteem and body-satisfaction.

6. 52% of disordered eaters were classified as socially anxious.

7. Socially anxious disordered eaters had low self-esteem; disordered eaters without social anxiety reported relatively high self-esteem. All disordered eaters had poor body-satisfaction.

8. Discussion

Poor self-evaluations are predictive of social anxiety for normals and disordered eaters with poorer self-evaluations in the latter group producing higher social anxiety scores. Furthermore, it was the presence of low self-esteem (in addition to poor body-satisfaction) that distinguished socially anxious- from non socially anxious-disordered eaters. Put simply, comorbidity is more likely to arise when body-satisfaction and self-esteem are both low. This is consistent with our predictions.

These results are discussed in four sections. Initially, general trends observed in this sample are reviewed, to provide a profile of the current subjects. Disordered eaters in this study differed from those in previous studies in that their body-satisfaction was not related to their self-esteem. This is discussed in the following chapter. Chapter 10 presents an explanation of our results in view of the predictions outlined in Chapter 4, and details some implications of the present research. Conclusions are noted in Chapter 11.

8.1 Profile of the present subjects

The study has provided us with some descriptive information concerning levels of self-evaluations, disordered eating attitudes and social anxiety among young Christchurch women. Perhaps one of the most significant findings was the overall level of social anxiety experienced by subjects. Although this was not the primary focus of the study, high scores on the SPAI warrant some consideration. As this scale was only recently developed, there are few studies with which to compare our subjects' scores. As previously noted however, (see Section 7.1), the average level of social anxiety was only slightly less than the recommended cut-off point for identifying social phobics. Additionally, this cut-off score was adopted for *minimising* the number of individuals being classified incorrectly as having social phobia (see Turner et al., 1989).

It is possible that the self-report methodology measuring body-satisfaction and self-esteem increased subjects' self-awareness of aspects related to social anxiety, thus elevating scores on the SPAI. However, the susceptibility of young women to developing psychopathology such as social anxiety was previously noted (Sections 3.3 and 4.2). The uncertainty faced by these women (for example, new social and sexual roles at high school; vocational and ideological choices at university) can contribute to both self-presentational doubts and the self-worth concerns that intensify these doubts. As these new roles and situations are experienced by all adolescents, perhaps moderate levels of social anxiety were to be expected. This may explain why very few subjects commented on their social fears, choosing instead to comment on eating and weight related issues, (see Appendix 3).

The relative indifference to social anxiety (in comparison with eating disorders for example) is cause for concern, given the high levels reported.[19] Instead of accepting social anxieties as 'normal' for adolescents, we should focus on teaching adolescents ways to cope with these evaluative fears. For example, the present study suggests that the impact of social anxiety on self-evaluations can increase the risk of developing further psychopathology (see Section 10.3). An awareness of the extent and consequences of social anxiety may foster development of ways to help individuals adopt appropriate coping strategies when faced with the prospect of interpersonal evaluation. This may include role playing, relaxation, and helping students foster their own sense of self-worth.

Nevertheless the primary focus of the present study was eating disorders, and despite healthy eating attitudes on average, some subjects displayed excessive concern with weight related issues. Given the restriction of this sample to young women, it is perhaps not surprising that the prevalence of disordered eaters (16% of subjects) was relatively high in comparison with prevalence estimates of 1% and 2% for anorexia and bulimia in the general population. (Note also that stricter diagnostic criteria apply for anorexia and bulimia). Levels of disordered eating attitudes were consistent with findings reported for young North American women (Streigel-Moore et al., 1993; Chandarana, 1988). Interestingly, considerably lower levels of disordered eating (4%) were reported in a previous sample of young Christchurch women. Although Wells et al., (1985; pp 145) acknowledge that subjects in their study were "low scorers" on the EAT-26, the present results indicate that the prevalence of disordered

[19] Perusal of the database Psyclit, from 1987 to 1994 revealed 275 journal articles on the subject "eating disorders and women" and 55 articles when the subject "(social anxiety or social phobia) and women" was entered.

eating in Christchurch women has increased since 1985. Furthermore, despite this, only two subjects reported receiving treatment for an eating disorder. Given that these attitudes may be representative of sub-clinical or *pre*-clinical anorexia or bulimia, again some concern is justified.

This indicates the need for further development and modification of existing programmes to educate young women about the issues in the present study. To help *prevent* problems, such programmes should be aimed at young women in general (for example, being included in the school curriculum), instead of being aimed at those who have reached the stage where they need help. This may also protect individuals from any negative consequences on their self-worth that result from having to 'seek help' (see Appendix 3, #49). Additionally, this education must go beyond an *awareness* of issues, and teach individuals their own ways of *coping* with the issues. For instance, many young women are aware that media images are unrealistic, but still feel a need to diet (see Appendix 3, #5 for example).

For such programmes to be effective, factors contributing to these high scores must be identified, such as those factors examined in the present study. Thus, of greater interest were the relationships between all variables. The unexpected finding that body-satisfaction and self-esteem were *not* correlated among disordered eaters is discussed in the following chapter.

9. Body-satisfaction and self-esteem - a relationship?

Understanding the relationship between body-satisfaction and self-esteem is central to the proposed explanation of eating disorders and social anxiety comorbidity. To reiterate, it was proposed that the combination of poor body-satisfaction and poor self-esteem (both common in disordered eaters) contributes to the development of comorbidity, (see Section 4.2.1). Although this was found, (disordered eaters reported the characteristic poor body-satisfaction, and generally lower self-esteem than normals), some disordered eaters reported *high* self-esteem. Thus, body-satisfaction and self-esteem were not correlated in this group.[20] The unexpectedness of this finding necessitates close examination of the relationship between body-satisfaction and self-esteem, and identification of the circumstances under which high self-esteem and poor body-satisfaction may co-exist in disordered eaters.

Initially, I consider the relationship between self-evaluations in normals, to identify the processes by which body-satisfaction and self-esteem may influence each other.

[20].Although the reader should note that perhaps it is more accurate to refer to these groups as either low-moderate or moderate-high self-esteem, subjects are referred to as either 'high' or 'low' self-esteem. This is for applicability to disordered eaters, for whom few reported the intermediate score of 3 on Rosenberg's RSE. Henceforth, high self-esteem refers to an absence of low self-esteem.

9.1 Body-satisfaction and self-esteem among normals

Although it was expected that the relationship between body-satisfaction and self-esteem would be particularly strong for disordered eaters, the significant relationship in normals reported here is consistent with previous research (for example, Ben-Tovim and Walker, 1991; Eldredge et al., 1990). It would be repetitive to discuss the extensive evidence regarding the emphasis placed on beauty, (largely defined by a slim body), as an indicator of personal worth. Readers are referred to Harter (1992) and Hesse-Biber (1991) for a review. Several subjects in the present study commented on the unrealistic images portrayed in the media; one subject referring to the 'vicious myth that slim is beautiful and best'. (Appendix 3, #31). Equating body-satisfaction with physical appearance, this 'myth' could be accepted as a valid, if somewhat clichéd explanation for our result.

This explanation assumes that body-satisfaction does in fact influence self-esteem level. This is consistent with research conducted by Harter and colleagues suggesting that physical appearance is often the most important domain in determining self-esteem (1992, p117). This is based on the Jamesian perspective that high self-esteem results from success in an 'important domain' (1892, in Harter, 1992). Given that overweight people are generally more dissatisfied than normal weight people (Polivy et al., 1990), we could assume that failure at weight control would lower body-satisfaction, and thus self-esteem. Likewise, success with weight control would enhance both body-satisfaction and self-esteem. This arises from a feeling of competence at weight control, and, becoming slim (attractive). In addition to self-

evaluations, we are also aware that others employ the same criteria for judgement. Integrating Cooley's perspective on self-esteem (1902, in Harter, 1992), high body-satisfaction may contribute to the belief that others are judging our *global* self positively; this global judgement may then be internalised.

Alternatively, and additionally, the strong correlation between these variables could be explained by the influence self-esteem has on later evaluations of one's body. Furthermore, the societal emphasis on one's body may result in global self-evaluations *prompting* body evaluations (see Streigel-Moore et al., 1993). One subject in the current study noted that when her self-esteem is low due to something 'bad' happening, she reflects 'on [her] body thinking it is a lot worse ... than it is' (Appendix 3, #22).

Previously, this consistency across self-evaluations has been explained, not surprisingly, in terms of self-esteem consistency theory (Garner and Garfinkel, 1981; Eldredge et al., 1990). That is, individuals are motivated to maintain a consistent cognitive state with respect to self-evaluations. This is achieved through the selective processing of information such that information that is consistent with self-evaluations (or self-schemata) is accepted, while information that is not consistent is disregarded or distorted (Baumeister et al., 1989; Eldredge et al., 1990). Thus, while being called 'shapely' may enhance body-satisfaction in a woman with high self-esteem, a woman with low self-esteem may (mis)interpret this as 'not lean enough', lowering body-satisfaction.[21,]

[21] This can apply to women with and without eating disorders. Among anorexics and bulimics however, who typically have lower self-esteem, this is especially pertinent. As these women often desire a *skinny* body, well-intentioned comments such as "you're looking well", may be misinterpreted. Rather than the comment reinforcing any weight gain, it may in fact lower the patient's body-satisfaction, as

An alternative need - self-esteem enhancement - can also explain this relationship. Some women with low self-esteem may focus on attaining a thin body in order to enhance their esteem. That is, they may desire thinness to 'compensate' for non-physical 'deficits'. Although Polivy et al. (1990) distinguish between this desire for thinness and body-satisfaction per se, this desire produces discrepancies between actual and ideal body. As noted by Higgins and Tykocinski (1990), such discrepancies will produce dissatisfaction. That is, low self-esteem may produce weight loss attempts, and ultimately poor body-satisfaction. If weight loss is achieved, self-esteem and body-satisfaction are both raised. Note that among high-self-esteem women, both consistency and enhancement needs can be met by positive evaluations of their bodies.[22]

In summary, the body-satisfaction/self-esteem relationship can be explained by the observation that success (weight control/loss) in the domain of physical appearance enhances self-esteem and body-satisfaction, and, circumstances lowering self-esteem may lower body-satisfaction. This does not mean however, that young women should be encouraged to lose weight to boost their self-esteem! The strength of the relationship and the unlikelihood of obtaining the ideal body are such that these young women may become susceptible to developing an eating disorder. Again, this suggests a need to find productive and healthy ways of enhancing self-esteem. This may include a re-direction of attention towards different physical domains, such as learning new physical skills, for which thinness is not a prerequisite. In addition to

---

she interprets it as "you're looking fat".

[22] Note that the sociocultural emphasis on ones body, self-esteem consistency and self-esteem enhancement motivations also exist across *intermediate* levels of self-esteem.

the self-esteem enhancement that may arise from success, the individual may learn to value her body for its capabilities, health, and achievements, as opposed to how thin she is.

The relationship between body-satisfaction and self-esteem among disordered eaters is more complex, as discussed in the following section.

9.2 Body-satisfaction and self-esteem among disordered eaters

It is widely accepted that body-satisfaction is a strong indicator of self-worth among those with eating disorders (for example, see Garner et al., 1981, and Section 2.3.5), and thus the explanation above can apply to those disordered eaters experiencing both low body-satisfaction and low self-esteem. As previously noted, one factor distinguishing disordered eaters from normals may be the *type* of body desired (see Section 2.1). That is, while normals strive to look good, disordered eaters may desire an emaciated body, at the expense of looking good. Nevertheless, this is not inconsistent with society's emphasis on appearance, as one's body is still central to identity, role conflict, self-esteem and a means of achieving various goals.

However, it is important to remember that *no* correlation between these variables was found for disordered eaters. Instead, body-satisfaction was low for all, with distributions showing the group could be distinguished into high and low self-esteem subgroups, negating any relationship. Accepting self-esteem consistency and enhancement as motivating factors (see O'Connor, 1991), the above explanation can

be reconsidered to explain the co-existence of poor body-satisfaction and moderate or *high* self-esteem.

This necessitates (re)defining success for disordered eaters. Two components can be identified - 'success' and 'physical appearance'. These can be likened to two classes of esteem needs: competence and status, (Maslow, 1970; Cloninger et al., 1994) . Among normals, control over one's weight may foster a general sense of competence, improving self-esteem, in addition to self-esteem enhancement that arises out of the belief that what is slim (beautiful) is good. However, for disordered eaters, standards are revised upwards when success is experienced, (Slade, 1982). Thus, while these women may feel some competence following weight control/loss, enhancing self-esteem, there are still discrepancies between their perceived and ideal body, so body-satisfaction remains poor.

The assumption above is that self-esteem is dependent on weight control/loss. However, it is possible that the ordering of questionnaires in the survey (self-esteem first) was such that subjects were forced to make global evaluations *before* reporting their body-satisfaction, and thus before considering their weight control efforts. This may have disrupted the usual process adopted. Although our results do not describe the thought processes of our subjects, Harter (1992) found that those with poorer evaluations (such as disordered eaters in the present study), typically made specific evaluations prior to global evaluations. Thus, disruption of such a process may explain the lack of low self-esteem reported *before* poor body-satisfaction.

Note also that it is possible that success in alternative domains contributed to high self-esteem among some disordered eaters. Furthermore, the negative body-evaluations that exist with this high self-esteem are perhaps indicative of the

importance these women place on their bodies. That is, poor body-satisfaction may arise *despite* the strong motivation for self-esteem consistency and enhancement. Perhaps the use of measures which recorded subjects satisfaction with various domains of the self, and, the salience of that domain in determining self-esteem would have clarified this issue.

Thus far, the explanation has focused on the direct influence body-satisfaction and self-esteem have on each other. Considering the evidence presented, this is a reasonable assumption. However, our results which show moderate-high self-esteem among non-socially anxious disordered eaters highlight the possibility of social anxiety as a moderator of the body-satisfaction and self-esteem relationship. Although social anxiety is discussed in the following chapter, it is appropriate at this stage to consider self-presentation as a primary motivation for eating disorders.

The disordered eater whose weight preoccupation was initially motivated by resolution of family conflict for example, may lack confidence in conflict resolution but have confidence in her ability to establish and present an adult role. Assuming that this self-presentational confidence partially arises out of a high global self-esteem, and that (perceived) social success enhances self-esteem, it would be interesting to determine whether the poor body-satisfaction in this case would ultimately lower self-esteem. That is, does self-presentational confidence, (and thus esteem from others' evaluations of us) protect one from the negative influence poor body-satisfaction has on self-esteem? This does not refute the view that the combination of poor self-evaluations and self-presentational motivations contribute to the increased likelihood of experiencing comorbidity. Instead, it raises important questions and implications for those working with disordered eaters.

Perhaps most importantly, the awareness that body-satisfaction and self-esteem are not necessarily related in disordered eaters should motivate research investigating those with high self-esteem. *Does* the high self-esteem result from weight loss success? If other factors produce high self-esteem, are these related to chronicity and severity of illness? At what stage in the illness does the individual lose self-esteem, and body-satisfaction become all-pervasive? The present study considered the implications of self-esteem for the development of comorbidity, to be discussed in Chapter 10.

9.3 Body-satisfaction and self-esteem: Conclusion and integration.

In summary, the sociocultural emphasis on appearance and resulting centrality of women's bodies to their identity produce a strong positive and circular relationship between body-satisfaction and self-esteem among normals. Nevertheless, body-satisfaction and self-esteem do represent distinct constructs, and may have a more complex relationship. This is evidenced by the findings for some disordered eaters in the current study. Despite self-esteem enhancement and consistency motivations, poor body-satisfaction and high self-esteem can co-exist as success with weight control/loss, but not the desired body, is achieved. The relationship of body-satisfaction and self-esteem to social anxiety is discussed in the following chapter.

10. Predictors of social anxiety

I begin this chapter with a return to the context in which comorbidity develops and the importance of body-satisfaction and self-esteem become apparent. Briefly, I will show that results support the expectations outlined in Section 4.2.1. Following this, self-evaluations and social anxiety in normals are briefly addressed. The same factors were predictive of social anxiety for each group, thus the main focus of this chapter is on self-evaluations and social anxiety in the disordered eater, with reference to normals being made where appropriate. This main section explains body-satisfaction and self-esteem as independent predictors of social anxiety. I conclude with a consideration of how the relationship between them contributes to perpetuation of psychopathology.

10.1 The development of eating disorders and social anxiety

The self-presentational nature of eating disorders and the environmental demands of the adolescent female provide the context for the development of comorbidity. According to Erikson (1968, cited in Peterson, 1989), the primary developmental task of the adolescent is establishing an identity. This identity must be presented to others in order to establish a role and status within society, and independence from one's family. Specifically, I proposed that poor body-satisfaction and self-esteem

contribute to the individual's inability to successfully complete this task.

Results were consistent with this prediction, (see Section 4.2.1A) Additionally, those with poor body-satisfaction but high self-esteem experienced disordered eating attitudes but not social anxiety, consistent with the second scenario outlined (Section 4.2.1B). Thus, although body-satisfaction and self-esteem are unique predictors of social anxiety, it is low self-esteem that distinguishes socially anxious- from non-socially anxious- disordered eaters.

It is unlikely that many subjects experienced the third scenario - low self-esteem and high body-satisfaction. Among normals, these were highly correlated, and although I did not expect body-satisfaction to be a significant predictor of social anxiety for this group, this is easily understandable given the societal emphasis on one's appearance. Social anxiety in normals is discussed below.

10.2 Self-evaluations and social anxiety among normals

Normals had higher self-evaluations and thus were less likely to experience social anxiety than disordered eaters. The influence of body-satisfaction and self-esteem on social anxiety can be explained by application of the following discussion to normals. However, it was predicted that the presence of social anxiety without disordered eating would occur when self-esteem was low, and body-satisfaction was unrelated to self-esteem. As self-evaluations were strongly related, we may question why eating disorders do not always develop when self-esteem, and thus body-satisfaction, are

poor enough to produce social anxiety.

Despite high comorbidity rates, eating disorders are more complex than dieting for self-presentation. The reader is referred back to Chapter 2 for a discussion on the many factors contributing to development of an eating disorder and thus identification of why body-weight becomes a more salient concern for some individuals than others.

Similarly, those who develop social evaluative fears do not always attempt to achieve self-presentational goals by changing their body weight! Social anxiety may exist without eating disorders as individuals may choose alternative means to cope or 'escape' from the aversive effects of social-evaluative fears. That is, although body-satisfaction and self-esteem contribute to social fears, it is probable that additional dimensions of the self are also predictive of social anxiety, dimensions that were not included in the present study. (As eating disorders were the focus of the present study, *body-satisfaction* was the 'specific' self-evaluation of interest). For example, while the aversive self-awareness associated with social anxiety may lower body-satisfaction, it may also produce attempts to both escape and improve self-esteem through immersion in one's work. (It is likely that the specific focus of self-evaluations would have implications for self-presentations). Indeed, the self-evaluations studied contributed to a smaller variation in social anxiety scores for normals than for disordered eaters (see Section 7.2.2).

As noted in Chapter 4, a narrowing of concern to one specific dimension of the self may have implications for the form of psychopathology that develops. Although some aspects of ourselves will be more salient to our identity than others, teaching young people to develop several areas of their identity may lessen the risk of developing psychopathology through the process described in the present study.

Nevertheless we have identified two significant predictors of social anxiety, for normals and disordered eaters. The model developed has proposed some mechanisms by which they influence social anxiety. Research should begin to focus on these mechanisms, which are discussed below, in the context of explaining self-evaluations as predictors of social anxiety.

10.3 Self-evaluations and social anxiety among disordered eaters

Below I discuss possible influences of self-evaluations on the development of social anxiety in disordered eaters. I begin with a consideration of body-satisfaction.

10.3.1 Body-satisfaction

The path towards comorbidity can begin when one's body-weight becomes a socially determined means of establishing and presenting a unique role within society. An awareness that others base their evaluations of us on our bodies was perhaps sadly indicated by one subject in the present study who reported 'I don't go to plays because I'm bigger than the others' (Appendix 3, #20). Such a focus on one's body can also intensify and be perpetuated by concerns with establishing an appropriate *gender* role, and additional factors such as familial interests in fitness and health. Hence, control over one's diet and thus, others' evaluations, become indicators of success.

In addition to self-presentational motivations, *doubt* about obtaining success is central

to social anxiety. It follows that those with poor body-satisfaction will doubt their ability to achieve self-presentational goals, thus increasing the likelihood of experiencing social anxiety.

Self-presentational doubts also arise out of uncertainty regarding what is required to achieve self-presentational goals. The ambiguous nature of desirable female qualities can intensify self-presentational doubts, as well as intensifying the focus on one's body, central to identity and role conflict. This focus on aspects of the self that are visible to others - public self-awareness - can increase social anxiety, (Leary, 1983a). That is, those who are publicly self-aware are more sensitive to interpersonal evaluations. In those who are *dissatisfied* with their body, this increases sensitivity to *negative* evaluations

Thus, results are consistent with the explanation that those with poor body-satisfaction have poor perceived self-presentational efficacy. Furthermore, they are consistent with the assumption that actual weight loss per se does not correspond to perceived self-presentational efficacy, but one's self-evaluations do. This is supported by Hsu's (1990) observation that social fears among anorexics *increase* with weight loss. Furthermore, upwards revision of standards in the disordered eater ensures the maintenance of poor body-satisfaction, and thus self-presentational doubts.

It is appropriate at this stage to return to the *proximate* goals of the disordered eater; her attempts at weight control/loss. Weight control represents one method by which to feel a sense of self-efficacy (see Slade,1982; and Hsu,1990). Future research examining the relationship between weight loss, self-efficacy, self-*presentational* efficacy and self-evaluations could offer further insight into the relationship between eating disorders and social anxiety. One possibility is to examine the generalisability

of eating-related efficacy to self-presentational efficacy. It may be valuable to compare anorexics and bulimics on these measures, for while both groups may fear loss of control, bulimics *exhibit* this loss of control.[23]

The present discussion of body-satisfaction has focussed on fear of interpersonal evaluation that arises because the individual may feel 'too fat', as this is what was measured by the Body Shape Questionnaire. However, it is possible that concerns regarding one's body, but not *dissatisfaction* per se, are predictive of social anxiety. For example, a woman with a very attractive body may be aware of, but not desire, the attention her body receives from others. One subject reported that she dressed to hide her body as she feels anxious when '...men look at (her) in a sexual way.' (Appendix 3, #34). Accepting our definition of 'negative evaluation' as any evaluation not desired, we can understand how unwanted appraisals of her body can produce fear of negative evaluation, ie. social anxiety. In this case, eating disorders may not develop as she is satisfied with her body. Furthermore, although we could assume that having the 'perfect' body would enhance her global self-esteem, this may have little impact on her self-presentational efficacy as she is aware that her *body* is constantly the focus of others' attentions, such that she can not adequately present these non-physical qualities to others. It is not enough to possess desirable qualities, one must be able to present them as well.

Nevertheless, perceived self-presentational efficacy is generally related to self-esteem levels. The relationship between self-esteem and social anxiety is discussed below.

---

[23] One could argue that anorexics too have lost control over their weight preoccupation. However, the anorexics interpretation is likely to be that she is in control as long as she continues to resist eating.

10.3.2 ***Self-esteem***

The reported high self-esteem in some disordered eaters was discussed in section 9.2, in the context of explaining the relationship between body-satisfaction and self-esteem. In this section, I return to a consideration of self-esteem in the disordered eater, in particular, the relationship with social anxiety.

Low self-esteem can increase self-presentational motivations as an individual may rely on others' opinions to boost this low self-esteem. Furthermore, such an individual may doubt her ability to achieve/maintain her status on the basis of her non-physical qualities, and thus desire thinness as a socially determined means of achieving her personal and self-presentational goals. (see Section 9.2). Thus, low self-esteem can produce self-presentational and dieting motivations. In addition, it may produce doubts which increase the likelihood of experiencing social anxiety.

We have seen that poor self-esteem may lower body-satisfaction and that this in turn lowers self-presentational efficacy. However, it is important to remember that while one's body is central to the self-presentational concerns of the disordered eater, both low global self-esteem and body-satisfaction contributed to the generalisability of social anxieties beyond eating- and appearance-related concerns. It would be interesting to determine whether the non-socially anxious disordered eaters in the present study (ie those with poor body-satisfaction and high self-esteem) exhibited social fears specific to their appearance.[24] Indeed, Hart et al (1989) note the importance if investigating the link between general and physique-related interpersonal concerns. Additionally, the reader is reminded that the influence of self-

[24] While the SPAI included items pertaining to eating and drinking in public, subjects were not given a psychometrically valid subscale relating to eating and drinking.

esteem on social anxiety scores existed independent of body-satisfaction levels.

There are several mechanisms by which this occurs. For example, poor self-esteem may contribute to poor confidence in your social skills, or a belief that others will also think you are worthless. Additionally, if social withdrawal accompanies social fears, the individual has fewer opportunities for obtaining *positive* evaluations from others, and thus enhancement of her self-esteem through these positive evaluations. This highlights the reciprocal nature of the relationship between self-esteem and social anxiety.

Furthermore, although the effects of social comparison were not tested in the present study, it is reasonable to assume that those with poorer body-satisfaction and self-esteem held others in higher esteem. For example, one subject reported that '...seeing all those extremely skinny girls on TV (makes her) feel inferior.' (Appendix 3, #4). As Leary (1983a) noted, social anxiety is intensified if the 'other' is held in higher esteem. Readers are referred to Leary for further discussion of the relationship between self-esteem and social anxiety. Of particular interest here is this relationship among disordered eaters.

One possibility consistent with the present results, is that eating disorders represent a protective self-presentation style. Such self-presentation styles are common in those with low self-esteem (Baumeister et al., 1989). Accepting an evolutionary perspective, the individual with poor body-satisfaction and self-esteem, and thus doubts about maintaining a dominant status will accept the subordinate position and attempt to escape, (Trower et. al, 1990). The helplessness associated with illness, and the extreme thinness desired by the anorexic may represent a form of submission, in which the individual, underrating her ability to deal with threat, disengages from

the dominance position. That is, an illness enables the individual to self-handicap, which minimises damage to self-presentational goals (see Hope et al., 1989). In addition, disengagement is also achieved through avoidance of maturity and thus presentation of an adult role. Furthermore, the self-starvation of the anorexic may be viewed as an ultimate attempt at suicide, and thus permanent escape or disengagement.[25]

In contrast, those with high self-esteem will adopt an acquisitive self-presentational style. Should they experience poor body-satisfaction and other risk factors, they may develop an eating disorder. For them, the eating disorder becomes not a mechanism for *avoiding* attention, or self-handicapping, but a way of *obtaining* attention from others. As this attention is not feared, social anxiety does not develop. This may explain why disordered eaters with high self-esteem were not socially anxious. That is, as indicated by our results, different levels of self-esteem among disordered eaters may determine whether interpersonal evaluations are desired or feared, ie., whether social anxiety develops. Note that the disordered eater with *low* self-esteem may both desire attention and fear it (for fear of being negatively evaluated), contributing to the inner conflict she faces. This may true for the anorexic whose illness, while representing an attempt at communication or obtaining attention etcetera, may try to hide her body for fear of drawing attention to it's 'fatness' and thus her imperfections.

In conclusion, poor body-satisfaction and self-esteem contribute to perceived and/or expected failure at achieving self-presentational and weight loss goals. Furthermore, in individuals with low self-esteem such failure is attributed to the self (see

[25] Those for whom a low self-esteem is independent of body-satisfaction level may be content with the avoidance of social contact as a means of avoiding disapproval, or adopt alternative methods of self-handicapping.

Baumeister, 1990). Thus, this failure intensifies aversive self-awareness, and results in (social) anxiety, both of which the individual then attempts to escape, (see Heatherton and Baumeister, 1991; Hamilton et al., 1992). The *relationship* between body-satisfaction and self-esteem increases the likelihood that social withdrawal and/or eating disorders represent means of escape, as discussed below.

10.3.3 Perpetuation of psychopathology - the role of body-satisfaction and self-esteem

Anxiety can be reduced by avoiding the anxiety-provoking situation. The apparent paradox of an individual who diets to achieve self-presentational goals, *and* avoid interpersonal evaluations was noted above, and highlighted the role of self-esteem in the development of comorbidity.

Alternatively, and additionally, anxiety can be escaped by escaping *aversive self-awareness,* which is characterised by poor self-evaluations. This may be achieved through a narrow attentional focus on food and weight (see Section 2.3.5). While bingeing may serve to temporarily reduce anxiety, and preoccupation with weight serves to detract attention away from additional concerns such as social anxiety, the preoccupation with one's body is intensified, further lowering body-satisfaction *and* self-esteem. Ironically, an *increased* public self-awareness and lower self-esteem ensures social anxieties are maintained, as is the motivation to diet.

Thus, the relationship between body-satisfaction and self-esteem can perpetuate comorbidity. (To reiterate, in socially anxious disordered eaters, both were low). While disordered eating and social anxiety may be independently reinforced (see Sections 2.3.5 and 3.3.5 respectively), the body-satisfaction/self-esteem relationship

intensifies the negative self-evaluations, contributing to the easy perpetuation of both disorders.

In summary, results have clearly demonstrated that a) poor body-satisfaction and self-esteem are central to the development of comorbidity, and b) low self-esteem increases the likelihood that a disordered eater will develop social anxiety. This can be explained by the self-presentational nature of eating disorders, which provides the context for the development of comorbidity. Poor body-satisfaction and self-esteem contribute to perceived failure at achieving self-presentational goals. Furthermore, the interaction between them intensifies this perceived failure and aversive self-awareness, and thus the individual feels a desire to escape. This can be achieved through reduction of social contact, and eating disorders. Further implications of these results are considered below.

10.4 Further implications

Results have highlighted some possibilities for future research which would further our understanding of comorbidity, some of which have been noted. Below, I discuss further implications and directions for research.

The explanation for our results implies that eating disorders and social anxiety develop concurrently. Indeed, such concurrent development is also implied by Hsu's (1990) observation that social withdrawal increases as the eating disorder

progressively worsens. However, it is possible that the presence of one disorder increases the risk of later developing the other, (through the impact on negative self-evaluations). For example, a woman with social anxiety may later develop an eating disorder if she begins dieting for health reasons, and, after being rewarded for weight loss, becomes aware of her body as a means of achieving self-presentational goals. This temporal relationship could be established by longitudinal studies, either examining the clinical development of secondary psychopathology, or utilising self-report methodology to determine which disorder preceded the other.

While such studies may further our understanding of *causality*, the influence of risk factors such as poor self-evaluations is evident, as results show. Perhaps it is more important to investigate the determinants of *initial* levels of self-evaluations, and try to identify which factors may protect one from poor self-evaluations. Particular emphasis should be placed on the co-existence of high self-esteem and poor body-satisfaction.

When poor self-esteem, and social anxiety, are present, an understanding of this experience in the disordered eater will have obvious treatment implications. For example, while it is important to improve body-satisfaction and instil a realistic body-image, reassuring someone that they are thin may only reinforce the self-presentational benefits of dieting. Thus, this 'reassurance' should occur in the context of providing patients with alternative, *internal* sources of self-esteem, and alternative means to achieve self-presentational goals.

However, the different clinical features of bulimia and anorexia require different treatment (Hsu, 1990), medical and psychological. In the present study, disordered eaters were defined by their excessive concern with, and fear of, weight and fatness,

without distinguishing between these two groups. The observation that bulimics are typically more extroverted than anorexics perhaps indicates that the experience of social fears differs across the two groups, despite high levels of social anxiety among both anorexics and bulimics. In addition to further understanding that may be obtained from this distinction, we should also consider the implications of results for different populations, as discussed below.

The explanation for our results may be applicable to older women with eating disorders (tardive anorexia). Although it is based on the establishment and presentation of an adult identity, circumstances which necessitate a re-evaluation of one's role in society, or the family, may produce self-presentational concerns. A combination of the societal emphasis on appearance (which exists for all women) and adaptation to physical changes (such as loss of a once youthful body), may direct the focus of such concerns to one's body, such that social anxiety develops.

However, I believe that more significant findings could be obtained from examining eating disorders and social anxiety in other cultures. Harter (1992), notes that the intense focus on the self is a Western phenomenon. As the incidence of eating disorders in non-Western cultures is increasing (see Pate et al., 1992), a corresponding increase in 'self-absorption', and social anxiety may offer tentative support for the model developed in the present study, and thus for the development of future research. Such findings would have important treatment implications for both eating disorders and social anxiety. Although self-esteem should be addressed in patients, the reduction of excessive self-concern should also be addressed. For example, patients could be taught to value themselves through the development of helping skills. Note that although self-awareness could be measured in a New

Zealand study, it is important to consider the social context in which such disorders develop.

In sum, results of the present study have several practical implications, and have provided a base for future research. Conclusions are presented in the following chapter.

11. Conclusions

Returning to the aims of the study, we have identified that body-satisfaction and self-esteem are both predictive of social anxiety, for those with and without disordered eating attitudes. Thus, the high levels of social anxiety among disordered eaters were attributed to poor self-evaluations. Furthermore low self-esteem distinguishes socially anxious- from non-socially anxious- disordered eaters. These results were interpreted within the context of a model which integrated the 'escape' approach developed by Baumeister (1990), Leary's (1983a) self-presentational perspective, and an evolutionary viewpoint adopted by Trower et al., (1990).

Results had significant practical and theoretical implications, highlighting the importance of developing internal sources of self-esteem in young women, and ways of coping with societal tasks. Development of the model on which this thesis is based may result in identification of factors which protect individuals from the negative consequences of poor self-evaluations, both global and specific. This applies to both disordered eaters and normals.

The reader is reminded that despite their self-presentational nature anorexia and bulimia are more complex than a desire to 'appear attractive', and thus worthy of 'status' in society. Self-presentations have been the focus of the present study, as I have attempted to explain co-existence with social anxiety. It is important to remember that while poor self-evaluations contribute to their social concerns, they also contribute to general interpersonal conflict, such that poor coping strategies (characterised by a desire to 'escape') are adopted by these women. I suggest that

the most significant contribution of future research lies in identification of factors protecting one from poor self-evaluations, and thus the negative individual, familial and social consequences associated with such psychopathology in young women.

References

Allgood-Merten, B., & Stockard, J. (1991). Sex-role identity and self-esteem: A comparison of children and adolescents. *Sex Roles, 25,* 3-4, 129-139.

American Psychiatric Association. (1987). *Diagnostic and statistical manual of mental disorders* (3rd ed., rev.). Washington, D.C.: Author.

Arkin, R.M. (1987). Shyness and self-presentation. In K. Yardley & T. Honess (eds). *Self and Identity: Psychosocial Perspectives.* Chichester: John Wiley and Sons. pp 187-195.

Baumeister, R.F. (1990). Anxiety and deconstruction: On escaping the self. In J.M. Olson & M.P. Zanna (eds). *Self-Inference Processes: The Ontario Symposium Volume 6.* Hillsdale, New Jersey: Lawrence Erlbaum & Associates. pp 259-291.

Baumeister, R.F., Tice, D.M. & Hutton, D.G. (1989). Self-presentational motivations and personality differences in self-esteem. *Journal of Personality, 57,* 3, 547-579.

Beidel, D.C., Turner, S.M., Stanley, M.A., & Dancu, C.V. (1989). The social phobia and anxiety inventory: concurrent and external validity. *Behavior Therapy, 20,* 417-427.

Ben-Tovim, D.I., & Walker, M.K. (1991). Women's body attitudes: A review of measurement techniques. *International Journal of Eating Disorders, 10,* 2, 155-167.

Brewerton, T.D., Lydiard, R.B., Ballenger, J.C., & Herzog, D.B. (1993). Eating disorders and social phobia. *Archives of General Psychiatry, 50*, 70.

Brody, G.H., Stoneman, Z., Millar, M., McCoy, J. (1990). Assessing individual differences: Effects of responding to prior questionnaires on the substantive and psychometric properties of self-esteem and depression assessments. *Journal of Personality Assessment, 54*, 1-2, 401-411.

Bruch, H. (1966). Anorexia nervosa and its differential diagnosis. Cited in Hsu, L.K.G. (1990). *Eating Disorders.* New York: The Guilford Press.

Bruch, H. (1973). *Eating disorders. obesity, anorexia nervosa, and the person within*. New York: Grune & Stratton.

Bruch, H. (1982). Anorexia nervosa: Therapy and theory. Cited in Hsu, L.K.G. (1990). *Eating Disorders.* New York: The Guilford Press.

Bruch, M.A. (1989). Familial and developmental antecedents of social phobia: Issues and findings.*Clinical Psychology Review, 9*, 1, 37-47. Special Issue: Social Phobia.

Bulik, C.M., Beidel, D.C., Duchmann, E., Weltzin, T.E. & Kaye, W.H. (1991). An analysis of social anxiety in anorexic, bulimic, social phobic, and control women. *Journal of Psychopathology and Behavioral Assessment, 13*, 3, 199-211.

Bushnell, J.A., Wells, J.E., Hornblow, A.R., Oakley-Browne, M.A., & Joyce, P. (1990). Prevalence of three bulimia syndromes in the general population. *Psychological Medicine, 20*, 671-680.

Button, E.J., & Whitehouse, A. (1981). Subclinical anorexia nervosa. *Psychological Medicine, 11*, 509-516.

Cacciopo, J.T., Glass, C.R., & Merluzzi, T.V. (1979). Self-statements and self-evaluations: A cognitive-response analysis of heterosocial anxiety. *Cognitive Therapy and Research, 3,* 3, 249-262.

Chandarana, P., Helmes, E., & Benson, N. (1988). Eating attitudes as related to demographic and personality characteristics: A high school survey. *Canadian Journal of Psychiatry, 33,* 834-837.

Cloninger, R., Svrakic, D., Przybeck, T. (1994). Structure and development of temperament and character. In P.R. Joyce, R.T, Mulder, M.A. Oakley-Browne, J.D Sellman, & W.G.A. Watkins (eds). *Development, Personality and Psychopathology.* Christchurch: Christchurch School of Medicine.pp169-202.

Cooper. P.J. & Fairburn, C.G. (1983). Binge-eating and self-induced vomiting in the community: A preliminary study. *British Journal of Psychiatry, 142*, 139-144.

Cooper, P.J., Taylor, M.J., Cooper, Z., & Fairburn, C.G. (1987). The development and validation of the Body Shape Questionnaire. *International Journal of Eating Disorders, 6,* 4, 485-494.

Crisp, A.H. (1980). *Anorexia Nervosa: Let Me Be.* New York: Grune & Stratton.

Davison, G.C., & Neale, J.M. (1990). *Abnormal Psychology.* New York: John Wiley and Sons.

Demo, D.H. (1985). Measurement of self-esteem: Refining our methods. *Journal of*

Personality and Social Psychology, 48, 6, 1490-1501.

Eldredge, K., Wilson, G.T., & Whaley, A. (1990). Failure, self-evaluation and feeling fat in women. *International Journal of Eating Disorders, 9,* 1, 37-50.

Fear, J. (1994). *Eating behaviors of adolescent girls comparing single-sex and co-educational schools.* Unpublished master's thesis, University of Canterbury, Christchurch.

Furnham, A., & Hume-Wright, A. (1992). Lay theories of anorexia nervosa. *Journal of Clinical Psychology, 48,* 1, 20-36.

Garner, D.M., & Garfinkel, P.E. (1979). The Eating Attitudes Test: an index of the symptoms of anorexia nervosa. *Psychological Medicine, 9,* 273-279.

Garner, D.M., & Garfinkel, P.E. (1981). Body image in anorexia nervosa: measurement, theory and clinical implications. *International Journal of Psychiatry in Medicine, 11,* 3, 263-283.

Garner, D.M., & Garfinkel, P.E. (Eds). (1985). *Handbook of Psychotherapy for Anorexia Nervosa and Bulimia.* New York: Guilford Press.

Garner, D.M., & Garner, M.V. (1986). Self-concept deficiencies in eating disorders. In L.M. Hartman & K.R. Blankstein, (eds). *Perception of Self in Emotional Disorder and Psychotherapy.* New York: Plenum Publishing Co.

Garner, D.M., Olmstead, M.P., & Polivy, J. (1983). Development and validation of a multidimensional Eating Disorders Inventory for anorexia nervosa and bulimia nervosa. *International Journal of Eating Disorders, 2,* 2, 15-33.

Garner, D.M., Olmsted, M.P., Bohr, Y., & Garfinkel, P.E. (1982). The Eating

Attitudes Test: psychometric features and clinical correlates. *Psychological Medicine, 12*, 871-878.

Goldbloom, D.S. (1987). Serotonin in eating disorders. Theory and therapy. In P.E. Garfinkel & D.M. Garner (Eds). *The role of drug treatments for eating disorders,* (pp124-149). New York: Brunner/Mazel.

Gross, J., Rosen, J.C., Leitenberg, H., & Willmuth, M.E. (1986). Validity of the Eating Attitudes Test and the Eating Disorders Inventory in bulimia nervosa. *Journal of Consulting and Clinical Psychology, 54,* 6, 875-876.

Gross, J., & Rosen, J.C. (1988). Bulimia in adolescents: prevalence and psychosocial correlates. *International Journal of Eating Disorders, 7,* 1, 51-61.

Halmi, K.A., Casper, R., Eckert, E., Goldberg, S.C., & Davis, J.M. (1979). Unique features of age of onset associated with anorexia nervosa. *Psychiatry Research, 1,* 209-215.

Halmi, K.A., Eckert, E.E., Marchi, P., Sampugarno, V., Apple, R., Cohen, J. (1991). Comorbidity of psychiatric diagnoses in anorexia nervosa. *Archives of General Psychiatry, 48,* 712-718.

Hamilton, J.C., Falconer, J.J., Greenberg, M.D. (1992). The relationship between self-consciousness and dietary restraint. *Journal of Social and Clinical Psychology, 11,* 2, 158-166.

Harter, S. (1992). Visions of self: Beyond the me in the mirror. In J.E. Jacobs (ed). *Nebraska Symposium on Motivation Volume 40: Developmental Perspectives on Motivation.* Lincoln, NE: University of Nebraska Press. pp 99-144.

Hart, E.A., Leary, M.R., & Rejeski, W.J. (1989). The measurement of social physique anxiety. *Journal of Sport & Exercise Psychology, 11*, 94-104.

Heatherton, T.F., & Baumeister, R.F. (1991). Binge eating as escape from self-awareness. *Psychological Bulletin, 110*, 1, 86-108.

Hesse-Biber, S. (1991). Women, weight and eating disorders: A socio-cultural and political-economic analysis. *Women's Studies International Forum, 14,* 3, 173-191.

Higgins, E.T., & Tykocinski, O. (1990). Patterns of self-beliefs: The psychological significance of relations among the actual, ideal, ought, can and future selves. In J.M. Olson & M.P. Zanna (eds). *Self-Inference Processes: The Ontario Symposium Volume 6.* Hillsdale, New Jersey: Lawrence Erlbaum & Associates. pp 153-190.

Hoek, H.W. (1993). Review of the epidemiological studies of eating disorders. *International Review of Psychiatry, 5,* 1, 61-74.

Hope, D.A., Gansler, D.A., & Heimberg, R.G. (1989). Attentional focus and causal attributions in social phobia: Implications from social psychology. *Clinical Psychology Review, 9*, 1, 49-60. Special Issue: Social Phobia.

Hsu, L.K.G. (1990). *Eating Disorders.* New York: The Guilford Press.

Hsu, L.K.G., & Sobkiewicz, T.A. (1991). Body image disturbance: Time to abandon the concept for eating disorders? *International Journal of Eating Disorders, 10*, 1, 15-30.

Jones, S.C. (1973). Self- and interpersonal evaluations: Esteem theories versus

consistency theories. *Psychological Bulletin, 79,* 3, 185-199.

Klyczek, J.P. & Gordon, C.Y. (1988). Choosing a motivation construct. *British Journal of Occupational Therapy, 51,* 9, 315-319.

Lake, E.A., & Arkin, R.M. (1985). Reactions to objective and subjective interpersonal evaluation: The influence of social anxiety. *Journal of Social and Clinical Psychology, 3,* 2, 143-160.

Leary, M.R. (1983a). *Understanding Social Anxiety: Social, Personality, and Clinical Perspectives.* Beverly Hills, CA: Sage.

Leary, M.R. (1983b). Social anxiousness: The construct and its measurement. *Journal of Personality Assessment, 47,* 1, 66-75.

Leary, M.R., & Atherton, S.C. (1986). Self-efficacy, social anxiety, and inhibition in interpersonal encounters. *Journal of Social and Clinical Psychology, 4,* 3, 256-267.

Leary, M.R. (1990). Responses to social exclusion: Social anxiety, jealousy, loneliness, depression and low self-esteem. *Journal of Social and Clinical Psychology, 9,* 2, 221-229.

Leitenberg, H. (ed). (1990). *Handbook of Social and Evaluation Anxiety.* New York: Plenum Press.

Levin, A.P., Schneier, F.R., & Liebowitz, M.R. (1989). Social phobia: Biology and pharmacology. *Clinical Psychology Review, 9,* 1, 129-140. Special Issue: Social Phobia.

Liebowitz, M.R., Gorman, J.M., Fyer, A.J. & Klein, D.F. (1985). Social phobia:

Review of a neglected anxiety disorder. *Archives of General Psychiatry, 42,* 729-736.

Litovsky, V.G., & Dusek, J.B. (1985). Perceptions of child-rearing and self-concept development during the early adolescent years. *Journal of Youth and Adolescence, 14,* 5, 373-387.

Mable, H.M., Balance, W.D.G., & Galgan, R.J. (1986). Body-image distortion and dissatisfaction in university students. *Perceptual and Motor Skills, 63,* 907-911.

Maslow, A.H. (1970). *Motivation and Personality.* 2nd edition. New York: Harper and Row.

Mattick, R.P. (1990). Social phobia: An overview of psychological concepts and treatments. In N. McNaughton & G. Andrews (eds), *Anxiety.* Dunedin: University of Otago Press. pp179-185.

Melnick, M.J., & Mookerjee, S. (1991). Effects of advances weight training on body-cathexis and self-esteem. *Perceptual and Motor Skills, 72,* 1335-1345.

Mintz, L.B., & Betz, N.E. (1988). Prevalence and correlates of eating disordered behaviors among undergraduate women. *Journal of Counseling Psychology, 35,* 4, 463-471.

Minuchin, S., Rosman, B.L., & Baker, L. (1978). *Psychosomatic families: Anorexia nervosa in context.* Cambridge, MA: Harvard University Press.

Mitchell, J.E., & Eckert, E.D. (1987). Scope and significance of eating disorders. *Journal of Consulting and Clinical Psychology, 55,* 5, 628-634.

Mizes, J.S. (1988). Personality characteristics of bulimic and non-eating-disordered female controls: A cognitive behavioral perspective. *International Journal of Eating Disorders, 7,* 4, 541-550.

Nagel, K.L., & Jones, K.H. (1992). Sociological factors in the development of eating disorders. *Adolescence, 27,* 105, 107-113.

O'Connor, B.P. (1991). How a relationship between thinking and feeling may give rise to a variety of human behaviors. *Genetic, Social, and General Psychology Monographs, 117,* 1, 29-48.

Pate, J.E., Pumariega, A.J., Hester, C., & Garner, D.M. (1992). Cross-cultural patterns in eating disorders: A review. *Journal of the American Academy of Child and Adolescent Psychiatry. 31,* 5, 802-809.

Patton, G.C. (1988). The spectrum of eating disorders in adolescence. Cited in Hsu, L.K.G. (1990). *Eating Disorders.* New York: The Guilford Press.

Peterson, C. (1989). *Looking forward through the lifespan: Developmental psychology.* (2nd ed). Sydney: Prentice Hall.

Phelps, L., & Bajorek, E. (1991). Eating disorders of the adolescents: Current issues in etiology, assessment, and treatment. *School Psychology Review, 20,* 1, 9-22.

Plomin, R. (1986). *Development, genetics and psychology.* Hillsdale, New Jersey: Lawrence Erlbaum and Associates.

Polivy, J., & Herman, C.P. (1987). Diagnosis and treatment of normal eating. *Journal of Consulting and Clinical Psychology, 55,* 5, 635-644.

Polivy, J., Herman, C.P., & Pliner, P. (1990). Perception and evaluation of body image: The meaning of body shape and size. In J.M. Olson & M.P. Zanna (eds). *Self-Inference Processes: The Ontario Symposium Volume 6.* Hillsdale, New Jersey: Lawrence Erlbaum & Associates. pp 87-114.

Rosenberg, M. (1965). *Society and the adolescent self-image.* Princeton, New Jersey: Princeton University Press.

Ryan, R. M. (1992). Agency and organisation: Intrinsic motivation, autonomy, and the self in psychological development. In J.E. Jacobs (ed). *Nebraska Symposium on Motivation Volume 40: Developmental Perspectives on Motivation.* Lincoln, NE: University of Nebraska Press. pp 1-56.

Schlenker, B.R., & Leary, M.R. (1982). Social anxiety and self-presentation: A conceptualization and model. *Psychological Bulletin, 92,* 3, 641-669.

Schneier, F.R., Johnson, J., Hornig, C.D., Liebowitz, M.R. & Weissman, M.M. (1992). Social phobia: Comorbidity and morbidity in an epidemiologic sample. *Archives of General Psychiatry, 49,* 282-288.

Schwalberg, M.D., Barlow, D.H., Alger, S.A., & Howard, L.J. (1992). Comparison of bulimics, obese binge eaters, social phobics, and individuals with panic disorder on comorbidity across *DSM-III-R* anxiety disorders. *Journal of Abnormal Psychology, 101,* 4, 675-681.

Shisslak, C.M., Crago, M., Neal, M.E., & Swain, B. (1987). Primary prevention of eating disorders. *Journal of Consulting and Clinical Psychology, 55,* 5, 660-667.

Shisshlak, C.M., Pazda, S-L., & Crago, M. (1990). Bodyweight and bulimia as discriminators of psychological characteristics among anorexic, bulimic and obese women. *Journal of Abnormal Psychology, 99,* 4, 380-384.

Slade, P. (1982). Towards a functional analysis of anorexia nervosa and bulimia nervosa. *British Journal of Clinical Psychology, 21,* 167-179.

Strauman, T.J. (1989). Self-discrepancies in clinical depression and social phobia: Cognitive structures that underlie emotional disorders? *Journal of Abnormal Psychology, 98,* 1, 14-22.

Striegel-Moore, R., McAvay, G., & Rodin, J. (1986). Psychological and behavioral correlates of feeling fat in women. *International Journal of Eating Disorders, 5,* 5, 935-947.

Striegel-Moore, R., Silberstein, L.R., & Rodin, J. (1993). The social self in bulimia nervosa: Public self-consciousness, social anxiety, and perceived fraudelence. *Journal of Abnormal Psychology, 102,* 2, 297-303.

Strober, M. (1980). Personality and symptomatological features in young, nonchronic anorexia nervosa patients. *Journal of Psychosomatic Research, 24,* 353-359.

Strober, M., & Humphrey, L.L. (1987). Familial contributions to the etiology and course of anorexia nervosa and bulimia nervosa. *Journal of Consulting and Clinical Psychology, 55,* 5, 654-659.

Strober, M., Lampert, C., Morrell, W., Burroughs, J., & Jacobs, C. (1990). A controlled family study of anorexia nervosa: Evidence of familial aggregation and lack of shared transmission with affective disorders. *International Journal*

of Eating Disorders, 9, 3, 239-253.

Theron, W.H., Nel, E.M., & Lubbe, A.J. (1991). Relationship between body-image and self-consciousness. *Perceptual and Motor Skills, 73,* 979-983.

Trower, P. & Gilbert, P. (1989). New theoretical conceptions of social anxiety and social phobia. *Clinical Psychology Review, 9,* 1, 19-35. Special Issue: Social Phobia.

Trower, P., Gilbert, P., & Sherling, G. (1990). Social anxiety, evolution, and self-presentation: An interdisciplinary perspective. In H. Leitenberg, (ed). *Handbook of Social and Evaluation Anxiety.* New York: Plenum Press. pp 11-45.

Turner, S.M., & Beidel, D.C. (1989). Social phobia: Clinical syndrome, diagnosis and comorbidity. *Clinical Psychology Review, 9,* 1, 3-18. Special Issue: Social Phobia.

Turner, S.M., Beidel, D.C., & Larkin, K.T. (1986). Situational determinants of social anxiety in clinic and nonclinic samples: Physiological and cognitive correlates. *Journal of Consulting and Clinical Psychology, 54,* 4, 523-527.

Turner, S.M., Beidel, D.C., Dancu, C.V., & Stanley, M.A. (1989). An empirically derived inventory to measure social fears and anxiety: The social phobia and anxiety inventory. *Journal of Consulting and Clinical Psychology, 1,* 1, 35-40.

Van Ameringen, M., Mancini, C., Styan, G., & Donison, D. (1991). Relationship of social phobia with other psychiatric illness. *Journal of Affective Disorders,*

21, 93-99.

Vandereycken, W., & Meermann, R. (1984). *Anorexia nervosa: A clinicans guide to treatment.* Berlin: Walter de Gruyter and Co.

Wardle, J., & Marsland, L. (1990). Adolescent concerns about weight and eating: A social-developmental perspective. *Journal of Psychosomatic Research, 34*, 4, 377-391.

Wells, J.E., Coope, P.A., Gabb, D.C., & Pears, R.K. (1985). The factor structure of the Eating Attitudes Test with adolescent schoolgirls. *Psychological Medicine, 15,* 141-146.

Wells, J.E., Bushnell, J.A., Hornblow, A.R., Joyce, P.R., & Oakley-Browne, M.A. (1989). Christchurch psychiatric epidemiology study, part I: Methodology and lifetime prevalence for specific psychiatric disorders. *Australian and New Zealand Journal of Psychiatry, 23,* 315-326.

Appendix 1

Questionnaire

The following questionnaires have been designed to assess your self-esteem, your attitudes towards your body and eating, and feelings you have towards social interaction.

Please answer each question yourself without help from others.

Read each question carefully and circle the appropriate number to the right.

Answer all questions.

As there are no right or wrong answers, and answers will be kept confidential, please answer as honestly as you can.

Thank-you.

Please Answer

Age:

Attending _____ school/university.

Are you currently receiving treatment for anorexia nervosa or bulimia nervosa?

Administrative use only:

Self-Esteem:

BSQ:

EAT:

SPAI:

Self-Esteem Scale (Rosenberg, 1965)

1. Strongly agree	2. Agree	3. Disagree	4. Strongly disagree

1. I feel that I'm a person of worth, at least on an equal basis with others. 1 2 3 4
2. I feel that I have a number of good qualities. 1 2 3 4
3. All in all, I am inclined to feel that I am a failure. 1 2 3 4
4. I am able to do things as well as most other people. 1 2 3 4
5. I feel I do not have much to be proud of. 1 2 3 4
6. I take a positive attitude toward myself. 1 2 3 4
7. On the whole, I am satisfied with myself. 1 2 3 4
8. I wish I could have more respect for myself. 1 2 3 4
9. I certainly feel useless at times. 1 2 3 4
10. At times I think I am no good at all. 1 2 3 4

Eating Attitudes Test (Garner & Garfinkel, 1979)

1. Always	2. Very often	3. Often	4. Sometimes	5. Rarely	6. Never

1. Like eating with other people.	1 2 3 4 5 6
2. Prepare foods for others but do not eat what I cook.	1 2 3 4 5 6
3. Become anxious prior to eating.	1 2 3 4 5 6
4. Am terrified about being overweight.	1 2 3 4 5 6
5. Avoid eating when I am hungry.	1 2 3 4 5 6
6. Find myself preoccupied with food.	1 2 3 4 5 6
7. Have gone on eating binges where I feel that I may not be able to stop.	1 2 3 4 5 6
8. Cut my food into small pieces.	1 2 3 4 5 6
9. Aware of the calorie content of foods that I eat.	1 2 3 4 5 6
10. Particularly avoid foods with a high carbohydrate content (e.g. bread, potatoes, rice etc).	1 2 3 4 5 6
11. Feel bloated after meals.	1 2 3 4 5 6
12. Feel that others would prefer if I ate more.	1 2 3 4 5 6
13. Vomit after I have eaten.	1 2 3 4 5 6
14. Feel extremely guilty after eating.	1 2 3 4 5 6
15. Am preoccupied with a desire to be thinner.	1 2 3 4 5 6
16. Exercise strenuously to burn off calories.	1 2 3 4 5 6
17. Weigh myself several times a day.	1 2 3 4 5 6
18. Like my clothes to fit tightly.	1 2 3 4 5 6
19. Enjoy eating meat.	1 2 3 4 5 6
20. Wake up early in the morning.	1 2 3 4 5 6
21. Eat the same foods day after day.	1 2 3 4 5 6

1. Always	2. Very often	3. Often	4. Sometimes	5. Rarely	6. Never

22. Think about burning up calories when I exercise. 1 2 3 4 5 6

23. Have regular menstrual periods. 1 2 3 4 5 6

24. Other people think that I am too thin. 1 2 3 4 5 6

25. Am preoccupied with the thought of having fat on my body. 1 2 3 4 5 6

26. Take longer than others to eating my meals. 1 2 3 4 5 6

27. Enjoy eating at restaurants. 1 2 3 4 5 6

28. Take laxatives. 1 2 3 4 5 6

29. Avoid foods with sugar in them. 1 2 3 4 5 6

30. Eat diet foods. 1 2 3 4 5 6

31. Feel that food controls my life. 1 2 3 4 5 6

32. Display self control around food. 1 2 3 4 5 6

33. Feel that others pressure me to eat. 1 2 3 4 5 6

34. Give too much time and thought to food. 1 2 3 4 5 6

35. Suffer from constipation. 1 2 3 4 5 6

36. Feel uncomfortable after eating sweets. 1 2 3 4 5 6

37. Engage in dieting behaviour 1 2 3 4 5 6

38. Like my stomach to be empty. 1 2 3 4 5 6

39. Enjoy trying new rich foods. 1 2 3 4 5 6

40. Have the impulse to vomit after meals. 1 2 3 4 5 6

SPAI (Turner, Dancu, and Beidel; 1989)

Below is a list of behaviours that may or may not be relevant for you. Based on your personal experience, please indicate how frequently you experience these feelings and thoughts in social situations. A social situation is defined as a gathering of two or more people. For example; a meeting; a lecture; a party; bar or restaurant; conversing with one other person of group of people, etc. FEELING ANXIOUS IS A MEASURE OF HOW TENSE, NERVOUS OR UNCOMFORTABLE YOU ARE DURING SOCIAL ENCOUNTERS.

1. Never	2. Very infrequent	3. Infrequent	4. Sometimes	5. Frequent	6. Very Frequent	7. Always

1. I feel anxious when entering social situations where there is a small group. 1 2 3 4 5 6 7

2. I feel anxious when entering social situations where there is a large group. 1 2 3 4 5 6 7

3. I feel anxious when I am in a social situation and I become the centre of attention 1 2 3 4 5 6 7

4. I feel anxious when I am in a social situation and I am expected to engage in some activity. 1 2 3 4 5 6 7

5. I feel anxious when making a speech in front of an audience. 1 2 3 4 5 6 7

6. I feel anxious when speaking in a small informal meeting. 1 2 3 4 5 6 7

7. I feel so anxious about attending social gatherings that I avoid these situations. 1 2 3 4 5 6 7

8. I feel so anxious in social situations that I leave the social gathering. 1 2 3 4 5 6 7

9. I feel anxious when in a small gathering with: 1 2 3 4 5 6 7

10. I feel anxious when being in a large gathering with 1 2 3 4 5 6 7

11. I feel anxious when in a bar or restaurant with 1 2 3 4 5 6 7

12. I feel anxious and do not know what to do when in a new situation with:
    - strangers 1 2 3 4 5 6 7
    - authority figures 1 2 3 4 5 6 7
    - opposite sex 1 2 3 4 5 6 7
    - people in general 1 2 3 4 5 6 7

1. Never	2. Very infrequent	3. Infrequent	4. Sometimes	5. Frequent	6. Very Frequent	7. Always

13. I feel anxious and I do not know what to do when in a situation involving confrontation with

strangers	1 2 3 4 5 6 7
authority figures	1 2 3 4 5 6 7
opposite sex	1 2 3 4 5 6 7
people in general	1 2 3 4 5 6 7

14. I feel anxious and I do not know what to do when in an embarrassing situation with:

strangers	1 2 3 4 5 6 7
authority figures	1 2 3 4 5 6 7
opposite sex	1 2 3 4 5 6 7
people in general	1 2 3 4 5 6 7

15. I feel anxious when discussing intimate feelings with

strangers	1 2 3 4 5 6 7
authority figures	1 2 3 4 5 6 7
opposite sex	1 2 3 4 5 6 7
people in general	1 2 3 4 5 6 7

16. I feel anxious when stating an opinion to

strangers	1 2 3 4 5 6 7
authority figures	1 2 3 4 5 6 7
opposite sex	1 2 3 4 5 6 7
people in general	1 2 3 4 5 6 7

17. I feel anxious when talking about business with

strangers	1 2 3 4 5 6 7
authority figures	1 2 3 4 5 6 7
opposite sex	1 2 3 4 5 6 7
people in general	1 2 3 4 5 6 7

18. I feel anxious when approaching and/or initiating a conversation

strangers	1 2 3 4 5 6 7
authority figures	1 2 3 4 5 6 7
opposite sex	1 2 3 4 5 6 7
people in general	1 2 3 4 5 6 7

19. I feel anxious when having to interact for longer than a few minutes with

strangers	1 2 3 4 5 6 7
authority figures	1 2 3 4 5 6 7
opposite sex	1 2 3 4 5 6 7
people in general	1 2 3 4 5 6 7

1. Never	2. Very infrequent	3. Infrequent	4. Sometimes	5. Frequent	6. Very Frequent	7. Always

20. I feel anxious when drinking (any type of beverage and/or eating) in front of:

strangers	1 2 3 4 5 6 7
authority figures	1 2 3 4 5 6 7
opposite sex	1 2 3 4 5 6 7
people in general	1 2 3 4 5 6 7

21. I feel anxious when writing or typing in front of

strangers	1 2 3 4 5 6 7
authority figures	1 2 3 4 5 6 7
opposite sex	1 2 3 4 5 6 7
people in general	1 2 3 4 5 6 7

22. I feel anxious when speaking in front of

strangers	1 2 3 4 5 6 7
authority figures	1 2 3 4 5 6 7
opposite sex	1 2 3 4 5 6 7
people in general	1 2 3 4 5 6 7

23. I feel anxious when being criticised or rejected by;

strangers	1 2 3 4 5 6 7
authority figures	1 2 3 4 5 6 7
opposite sex	1 2 3 4 5 6 7
people in general	1 2 3 4 5 6 7

24. I attempt to avoid social situations where there are

strangers	1 2 3 4 5 6 7
authority figures	1 2 3 4 5 6 7
opposite sex	1 2 3 4 5 6 7
people in general	1 2 3 4 5 6 7

25. I leave social situations where there are

strangers	1 2 3 4 5 6 7
authority figures	1 2 3 4 5 6 7
opposite sex	1 2 3 4 5 6 7
people in general	1 2 3 4 5 6 7

26. <u>Before entering</u> a social situation I think about all the things that can go wrong. The types of thoughts I experience are:

Will I be dressed properly?	1 2 3 4 5 6 7
I will probably make a mistake and look foolish	1 2 3 4 5 6 7
What will I do if no one speaks to me?	1 2 3 4 5 6 7
If there is a lag in the conversation what can I talk about?	1 2 3 4 5 6 7
People will notice how anxious I am	1 2 3 4 5 6 7

1. Never	2. Very infrequent	3. Infrequent	4. Sometimes	5. Frequent	6. Very Frequent	7. Always

27. I feel anxious before entering a social situation 1 2 3 4 5 6 7

28. My voice leaves me or changes when I am talking in a social situation 1 2 3 4 5 6 7

29. I am not likely to speak to people until they speak to me 1 2 3 4 5 6 7

30. I experience troublesome thoughts when I am in a social setting. For example:
    - I wish I could leave and avoid the whole situation 1 2 3 4 5 6 7
    - If I mess up again I will really lose my confidence 1 2 3 4 5 6 7
    - What kind of impression am I making? 1 2 3 4 5 6 7
    - Whatever I say it will probably sound stupid 1 2 3 4 5 6 7

31. I experience the following prior to entering a social situation
    - sweating 1 2 3 4 5 6 7
    - frequent urge to urinate 1 2 3 4 5 6 7
    - heart palpitations 1 2 3 4 5 6 7

32. I experience the following in a social situation
    - sweating 1 2 3 4 5 6 7
    - blushing 1 2 3 4 5 6 7
    - shaking 1 2 3 4 5 6 7
    - frequent urge to urinate 1 2 3 4 5 6 7
    - heart palpitations 1 2 3 4 5 6 7

33. I feel anxious when I am home alone 1 2 3 4 5 6 7

34. I feel anxious when I am in a strange place 1 2 3 4 5 6 7

35. I feel anxious when I am on any form of public transportation (ie bus, train, airplane) 1 2 3 4 5 6 7

36. I feel anxious when crossing streets 1 2 3 4 5 6 7

37. I feel anxious when I am in crowded public places (ie, stores, church, movies, restaurants etc) 1 2 3 4 5 6 7

38. Being in large open spaces makes me feel anxious 1 2 3 4 5 6 7

39. I feel anxious when I am in enclosed places (elevators, tunnels etc) 1 2 3 4 5 6 7

40. Being in high places makes me feel anxious (ie tall buildings) 1 2 3 4 5 6 7

1. Never	2. Very infrequent	3. Infrequent	4. Sometimes	5. Frequent	6. Very Frequent	7. Always

41. I feel anxious when waiting in a long line 1 2 3 4 5 6 7

42. There are times when I feel like I have to hold on to things because I am afraid I will fall 1 2 3 4 5 6 7

43. When I leave home and go to various public places, I go with a family member or friend 1 2 3 4 5 6 7

44. I feel anxious when riding in a car 1 2 3 4 5 6 7

45. There are certain places I do not go to because I may feel trapped. 1 2 3 4 5 6 7

Body Shape Questionnaire (Cooper, Taylor, Cooper, Fairburn, 1987).

We should like to know how you have been feeling about your appearance over the PAST FOUR WEEKS. Please read each question and circle the appropriate number to the right. Please answer all the questions.
OVER THE PAST *FOUR WEEKS:*

1. Never	2. rarely	3. sometimes	4. often	5. very often	6. always

1. Has feeling bored made you brood about your shape?	1 2 3 4 5 6
2. Have you been so worried about your shape that you have been feeling that you ought to diet?	1 2 3 4 5 6
3. Have you been so worried about your shape that you have been feeling that you ought to diet?	1 2 3 4 5 6
4. Have you been afraid that you might become fat (or fatter)?	1 2 3 4 5 6
5. Have you worried about your flesh not being firm enough?	1 2 3 4 5 6
6. Has feeling full (e.g. after eating a large meal) made you feel fat?	1 2 3 4 5 6
7. Have you felt so bad about your shape that you have cried?	1 2 3 4 5 6
8. Have you avoided running because your flesh might wobble?	1 2 3 4 5 6
9. Has being with thin women made you feel self-conscious about your shape?	1 2 3 4 5 6
10. Have you worried about your thighs spreading out when sitting down?	1 2 3 4 5 6
11. Has eating even a small amount of food made you feel fat?	1 2 3 4 5 6
12. Have you noticed the shape of other women and felt that your own shape compared unfavourably?	1 2 3 4 5 6
13. Has thinking about your shape interfered with your ability to concentrate (e.g. while watching television, reading, listening to conversations)?	1 2 3 4 5 6
14. Has being naked, such as when taking a bath, made you feel fat?	1 2 3 4 5 6
15. Have you avoided wearing clothes which make you particularly aware of the shape of your body?	1 2 3 4 5 6

1. Never	2. rarely	3. sometimes	4. often	5. very often	6. always

16. Have you imagined cutting off fleshy areas of your body? 1 2 3 4 5 6

17. Has eating sweets, cakes, or other high calorie food made you feel fat? 1 2 3 4 5 6

18. Have you not gone out to social occasions (e.g. parties) because you have felt bad about your shape? 1 2 3 4 5 6

19. Have you felt excessively large and rounded? 1 2 3 4 5 6

20. Have you felt ashamed of your body? 1 2 3 4 5 6

21. Has worry about your shape made you diet? 1 2 3 4 5 6

22. Have you felt happiest about your shape when your stomach has been empty (e.g. in the morning)? 1 2 3 4 5 6

23. Have you thought that you are the shape you are because you lack self-control? 1 2 3 4 5 6

24. Have you worried about other people seeing rolls of flesh around your waist or stomach? 1 2 3 4 5 6

25. Have you felt that it is not fair that other women are thinner than you? 1 2 3 4 5 6

26. Have you vomited in order to feel thinner? 1 2 3 4 5 6

27. When in company have you worried about taking up too much room (e.g. sitting on a sofa or a bus seat)? 1 2 3 4 5 6

28. Have you worried about your flesh being dimply? 1 2 3 4 5 6

29. Has seeing your reflection (e.g. in a mirror or shop window) made you feel bad about your shape? 1 2 3 4 5 6

30. Have you pinched areas of your body to see how much fat there is? 1 2 3 4 5 6

31. Have you avoided situations where people could see your body (e.g., communal changing rooms or swimming baths)? 1 2 3 4 5 6

32. Have you taken laxatives in order to feel thinner? 1 2 3 4 5 6

1. Never	2. rarely	3. sometimes	4. often	5. very often	6. always

33. Have you been particularly self-conscious about your shape when in the company of other people? 1 2 3 4 5 6

34. Has worry about your shape made you feel you ought to exercise? 1 2 3 4 5 6

Please add any further comments you feel may be relevant:

Appendix 2

Results

***Table 5**: Descriptive statistics for all subjects. N = 224.*

Variable	Mean	Std Dev.	Min	Max
Self-esteem (SE)	2.08	1.87	0.00	6.00
Eating Attitudes (EAT)	9.87	11.47	0.00	59.00
Dieting (I)	6.45	7.90	0.00	39.00
Bulimia (II)	1.83	2.99	0.00	12.00
Oral Control (III)	1.60	2.64	0.00	21.00
Agorophobia (AG)	21.15	10.99	0.00	54.00
Social Anxiety (SA)	58.16	27.14	0.00	137.00
Body Satisfaction (BSQ)	102.34	37.35	35.00	186.00
Age (AGE)	19.37	5.38	14.50	30.00

***Table 6**: Pearson correlation values for all subjects. N = 224.*

	SE	EAT	I	II	III	AG	SA	BSQ	AGE
SE									
EAT	.381***	1							
I	.341***	.961***	1						
II	.390***	.808***	.709***	1					
III	.206**	.567***	.393***	.265***	1				
AG	.240***	.266***	.229**	.271***	.167*	1			
SA	.478***	.308***	.308***	.309***	.067	.250***	1		
BSQ	.423***	.720***	.757***	.604***	.188**	.393***	.420***	1	
AGE	-.034	-.117	-.118	-.021	-.132*	.006	.048	-.006	1

* p<.05 ** p<.01 *** p<.001

Note:

Age and Agorophobia were omitted from the following analyses, as these variables were not relevant to the present study. The study focussed on one age group, ie adolescents, and the agorophobia score was relevant only in that it enabled a pure measure of social anxiety to be calculated.

***Table 7**: Correlation values for disordered eaters. N=36.*

	SE	EAT	I	II	III	SA	BSQ
SE	1.000						
EAT	.202	1.000					
I	-.029	.847***	1.000				
II	.317	.498**	.173	1.000			
III	.239	.711***	.448**	.026	1.000		
SA	.498**	.207	.222	.095	.093	1.000	
BSQ	.036	.401*	.385*	.336*	.110	.360*	1.000

*p<.05 **p<.01 ***p<.001

***Table 8**: Correlation values for normals. N=188.*

	SE	EAT	I	II	III	SA	BSQ
SE	1.000						
EAT	.250***	1.000					
I	.215**	.900***	1.000				
II	.238***	.666***	.464***	1.000			
III	.023	.272***	-.067	-.034	1.000		
SA	.435***	.308***	.286***	.343***	-.068	1.000	
BSQ	.356***	.599***	.656***	.408***	-.116	.403***	1.000

*p<.05 **p<.01 ***p<.001

***Table 9**: Z-scores showing comparison of correlation values between additional variables, for disordered eaters and normals - 1 tailed-test.*

FACTORS	Disordered eaters		Normals		z score
	r	z'	r	z'	
EAT,III	.711	.889	.272	.279	3.227***
I,III	.448	.482	-.067	-.067	2.905**
I,II	.173	.175	.464	.503	-1.73*
EAT, II	.498	.546	.666	.803	-1.36
BSQ, I	.385	.406	.656	.786	-2.01**

* p<.05 ** p<.01 *** p<.001

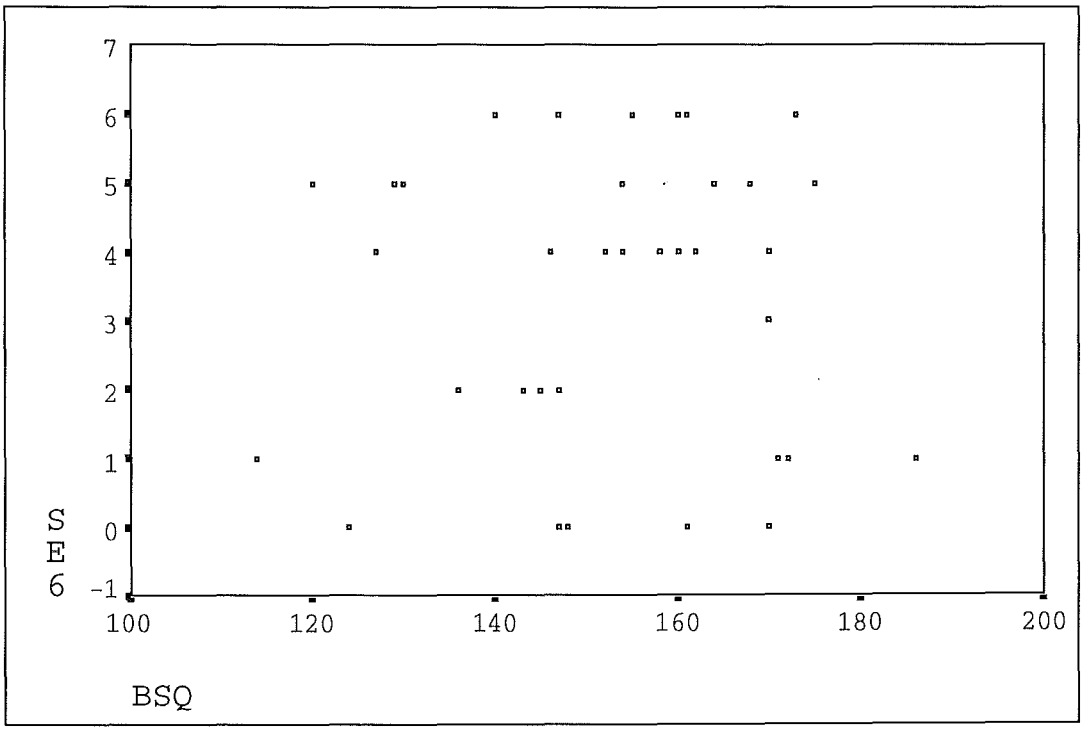

***Figure 3**: Scatterplot showing relationship of self-esteem and body-satisfaction among disordered eaters. N=36.*

***Table 10**: Multiple Regression Analysis: Eating attitudes on self-esteem (SE), body-satisfaction (BS) and Social Anxiety (SA)*

Multiple R .72015
R Square .51861
Adjusted R Square .51644
Standard Error 7.97846
$F_{(1,222)} = 239.17$; $p<.001$

Variable	r	beta	t
SE	$.38^{***}$	.09	1.83
BS	$.72^{***}$	.34	15.47^{***}
SA	$.01^{***}$	.01	.13

*** $p<.001$

***Table 11**: Mean scores on each variable for socially anxious (SADE) and non-socially anxious disordered eaters (NSADE).*

	SADE N=19		NSADE N=17		t
	mean	s.d.	mean	s.d.	
Self-esteem	4.47	1.47	2.24	2.08	*
Dieting	22.21	6.61	20.41	4.94	.92
Bulimia	7.16	3.50	5.76	4.2	1.08
Oral Control	4.00	3.59	3.88	5.57	.08
Agoro-phobia	23.63	11.76	27.76	9.64	-1.14
EAT	33.32	10.35	29.94	9.92	1.00
Body Satisfaction	155.74	15.63	149.65	18.77	1.06
Age	18.61	2.46	17.26	1.77	1.85

* $z=-3.16$, $p<.01$

Appendix 3

subjects comments

1. I am not an overweight person yet I am always conscious of my health and my weight. I don't feel I am at my ideal weight though - I'd like to lose a few kilos off my stomach - but that's all. However, you may be interested to know that even when I was at 'primary' school I was worried that I might get fat. I thought to myself "if I don't diet now I'll get fat when I'm older like mum did!" Of course these views have changed! I am relatively content with my appearance the way it is now.

2. Why don't you have a talk session on this type of thing. I know I'd go. But don't have it in school (eg lunchtime) have it in a period in the counsellor's room or something like that.

3. I think people need more education about slimmers diseases. Males put a lot of emphasis on slimness and other females also think it is the be all and end all.

4. I am not a fat person and my friends are always telling me that I am skinny and I'm not fat. I know that I'm not fat because I wear size 10-11 sized clothes and I am light for my height 5ft 7 but seeing all those extremely skinny girls on TV ads, TV programs etc tends to make me and almost all the girls I know feel imperfect and inferior.

5. People tell me that I'm not fat but I do have a very big appetite for somebody of my height which is 5'1". Sometimes I diet and exercise and lose a few pounds. I did a 3 day diet once and lost 7 pounds in 1 week but then put it on again! TV and magazines always have pretty models that are really skinny and that image is wrong for most females these days.

6. Girls often make conversation about how little they eat or make excuses for not eating because they "pigged out last night" or "had a big breakfast". Food and eating seems to be something everyone has control over. Males often instil social anxieties in females by commenting, often jovially, about fat girls; ugly girls; pimply girls they have seen.. They make you feel self-conscious about your own skin blemishes or the cake they saw you eating earlier etc. Girls often 'put down' other girls to make themselves feel better.

7. What about the thin people? I'm a very thin person and I hate it!!! Clothes hang on you, people think you're sick. You look like a rake. Guys hate skinny girls! I have been thin all my life and do not think that I am attractive because of it - quite the opposite in fact! I can eat as much of anything as I want without putting on any weight. I have tried exercises etc to build up my muscles. I just wish people would realise its just as frustrating for a thin person wanting to be bigger and

trying to put on weight as it is for a person wanting to be thinner and trying to lose weight!!!!

8. A person, such as myself can have a large degree of self-confidence and happy with oneself as a person - not a body, yet still eat too little or too much. It is a fallacy that if you "feel good" about yourself you will not have a problem with the disease of food obsession. I found some of the questions on the last inventory ambiguous. Everybody feels some reservations in social situations, not necessarily anxious. I recommend you use a different word such as nervous or reluctant or worried or concerned. The word anxious makes the reader feel like they are neurotic if they answer the positive.

9. I suffered from anorexia nervosa until a year ago. I got very quiet during my anorexia and lost a lot of confidence. My menstruation hasn't 'returned' yet which might be a sign telling me that I am not completely cured from anorexia yet. My anorexia has controlled my life for two years and has changed it a lot. My future life has been influenced by the fact that I had anorexia.

10. I am a small built person and although I usually think I am a bit plump people always tell me I'm thin. When I was 15 I cut out sugar and exercised rigorously until I was ridiculously thin - 7.25 stone. I am now 8 stone and am learning to deal with the fact that I am who I am. I still exercise and try to minimise fatty food intake. I think that I was once very close to anorexia and luckily pulled out of it just in time. We moved to a new city where I became very happy (I was previously insecure with my friends) and began to get back to a healthy weight.

11. I am 5ft3" and weight 50kg so I am not LARGE but not thin; yet not 'just right'.

12. I don't really care how I look it's how I feel inside that matters.

13. I do not spend much time thinking of my body. I have better things to do.

14. I do have counselling for an eating disorder. Eating is an addiction to me. At one stage, some time age, I would only eat fruit during the day, binge huge amounts of food at night and take j3 different types of laxatives, usually every day. I would feel guilty if I didn't get at least one hour of exercise every day. I was skinny and had a beautiful figure but I hated my body every bit as much as I hate it now. I don't take laxatives any more and I don't exercise obsessively but I still eat in an uncontrollable manner nearly every day. Food controls my life. It's hard and lonely and people cannot be made too aware of the consequences of our upbringing in a society obsessed with body images.

15. In regards to eating attitudes and body shape people tell me I have a great body, but I suppose I'm always comparing myself to my sister who is small and very petite while I am tall and have quite solid bones. I would never become anorexic as I like enjoying the taste of food too much. As I was raised in a religious sect I grew up only knowing and interacting with a few people and never had contact with people from a normal western society. I left this lifestyle 1.5 years ago and am still adjusting and being re socialised into the real world, however I feel I am

steadily improving my social skills.

16. Thinking that the 'internal self' is good does not always mean that you are happy about the external self. Media and society are always emphasising the perfect shape and how you are supposed to look. It forgets that different people are actually different in lots of ways including size.

17. Although I've never actually vomited after eating I've gotten as far as my head over the toilet bowl - but stopped when I realised that I'd be setting a course for my life for the next few years.

18. I don't feel I have a problem with my image but I also feel self-conscious about my shape as it seems only socially acceptable to be thin. I know that normal is not skinny as a pin but its hard to feel confident in a country where the norm is to put yourself and everyone else down.

19. Weight 8.5 stone. Height 5'3". Apparently others think that I am small (ie. both short and that I don't weight much) but I feel that if I lost half a stone I would feel much better about myself. Although others may tell me that I am not big, the thought of ever becoming bigger is scary. I feel big probably because I have put on half a stone since the beginning of this year (1993).

20. I am very overweight more so than all the boys in my youth group. I don't go to plays because I'm bigger than the others.

21. I think you can realise you're okay/normal etc, but want to be better and closer to your ideals even if they aren't exactly obtainable. This refers to both appearance and personality.

22. Sometimes when my self confidence or self esteem is low no matter what the reason (ie. feeling ill, or something bad has happened) I always reflect on my body thinking it is a lot worse (fatter) than it is.

23. In many of these situations a certain aspect of that particular event has made me anxious. Not so much people in general, but certain kinds of people in a particular conversation. At some stages I feel very confident and good looking and other times I feel fat and ugly and that nobody in their right mind would want to know me. The worst thing about feeling horrible about yourself is that very often you don't know the reason why. The few times you do know at least you have something to pinpoint it on and you don't get so depressed . Feeling depressed also makes you feel guilty because everyone goes on about how you're supposed to love yourself the way you are. When you don't you feel that something is wrong with you.

24. I don't feel I'm fat, in fact, I'm a relatively small person, but I would like to lose a little - be a bit skinnier. I experience these feelings often when I'm stressed or due for/have got my period, or broken up with a boyfriend/been rejected etc.

25. I am a tall female (5'11") older now (33) and accept myself as I am - have done so

for the last ten years or so. Only have thoughts of anxiety about weight when I put it on! - as is the case over winter. I am exactly the recommended weight for my height - though always tend to want to be half a stone thinner! Keeps you motivated to stay in shape - love exercise - not just to lose weight!

26. I threw out my scales because I used to weight myself too much.

27. In times of great stress (eg marriage breakup, age 29) I have eaten a lot/junk food to somehow make myself feel better. But I usually don't - only feel worse. Only when my own thoughts adjust to a more positive frame of mind can I have more will power over what I eat (as in eating healthy food instead of junk food). I feel exercise is imp0ortant to feeling fitter and better about myself - not just a means of losing weight.

28. As I said in question 12 if perhaps I saw repeated images of models in women's magazines I do begin to feel inadequate in certain areas. But, as these images are utter trash I don't look at them now. Question 22 - I don't feel very good in my stomach after I've eaten because it's full and a little bloated so as far as an empty stomach goes I feel good I guess. I haven't felt ashamed about my stomach, bum etc size but I did once desire longer legs and bigger breasts. My need to exercise is not particularly because of external reasons but the way my body feels on the inside. The psychology of being fit and healthy and strong is my main motivation for exercise. If I'm particularly hungry I sometimes can get rid of all the yummy things I want to eat, but I enjoy eating and aren't worried that when I think of food it's bad. If I had filled out this questionnaire when I was a young and naive high schooler a couple of years ago (when I was more worried about physical appearance) perhaps I would've answered a few things differently.

29. I often think about my body when having a shower etc and I generally feel very proud of my shape and the positive feelings that I have about myself, although sometimes I have a "down" day where nothing seems to go right, usually connected to monthly cycle or looming due essay date.

30. I feel most anxious when with small groups of friends who are just acquaintances, than strangers or close friends. I feel best about myself when I am able to help or do things for people, especially my friends.

31. I was attending an eating disorders counsellor but have since stopped due to financial reasons. I was diagnosed as bulimic - although I have never vomited or taken laxatives - but have felt the strong urge to many times. After going to the counsellor, I feel a lot better about myself but think about my body in terms of healthiness and appearance a lot. I think that the only reason that has prevented me from becoming an extreme bulimic is the fact that I've seen one friend die (due to many reasons, one being anorexia) and other friends mess up their bodies and their lives through bulimia and anorexia nervosa. I think that females and males (to a certain extent) should be educated about eating disorders, and learn that it's not their fault to have a distorted body image and low self-esteem. Society - the media and advertising in particular need to break the vicious myth that slim is beautiful and best. People should learn to feel proud of their natural body shape -

whether thin or fat and feel okay about themselves.

32. I have been very overweight since childhood except for about 1yr at 25 years old when I took diet pills under medical supervision to lose weight. They worked, but the weight returned when I stopped them.(Age 42)

33. With respect to questions 9 and 12 on body shape, it's especially when watching TV (eg Beverly Hills, Melrose Place - lots of skinny women)/movies/reading magazines/advertising/media in general and comparing my body shape to the women portrayed there that I feel bad about my body.

34. I am not a fat person, I actually weigh 51kgs, however, people make me feel guilty for being too thin - women I mean. I don't feel comfortable with my body in a sexuality sense, I get anxious when men look at me in a sexual way - I choose to wear clothes that hide my body a lot of the time. I do weight training to increase the muscles and tone my body - I am very critical of myself but it is not related to the food that I eat.

35. It may be good to differentiate between different parts of the subjects' bodies; some may like certain parts, but dislike other areas and feel that these certain areas are fat. Also some subjects may wish to have more fat on only certain areas, eg larger breasts perhaps but not in others.

36. I think I have a very healthy self-concept. However I do think about the way I look (my weight etc) much more than I'd like to and I make a conscious effort to counteract any negative self-talk I make about my body. I know that I look healthy - I exercise regularly and eat well. Body size is genetically predetermined and as long as I'm looking after and respecting my body, I'm doing the best I can. Societal pressure does play a large role in the way women feel about themselves and I think the key to coping as an individual is to realise this and to develop the skills necessary to work on accepting and valuing yourself as a unique human being. It is also important to learn to detach yourself from the mental, obsessive force that food symbolises so that it no longer has the power to control.

37. I would only seriously diet for <u>health</u> reasons and don't think I could ever be fat. Would <u>never</u> consider laxatives or vomiting.

38. I am practically completely content with the shape of the top half of my body. The thought of the state of my thighs (shape) makes me want to eat less all the time - however I would never ever become anorexic.

39. Got any good suggestions for diets that are fast working and is there any way we can get junk food taken off the market?

40. I don't mind talking to strangers unless I'm very tired and emotional. I don't mind constructive criticism but worry frequently about rejection, backstabbing and people talking about me.

41. I have a stocky type body which is genetic so there is not a lot I can do about it which makes me feel bad.

42. Although I'm not happy with my shape and sometimes get depressed I can accept it, good god - being a little overweight is nothing compared to being in a wheelchair or handicapped so I would never take pills to lessen my weight. Girls with eating disorders, also have disorders in their heads, no-one's perfect.

43. I know I am not fat but I want to tone up.

44. I know I'm not fat, I just think occasionally that because I don't do any exercise I might become fat. I like the shape of my body on the whole.

45. I'm not fat, I'm happy about my body except for m y bum, tops of my legs, my face, especially my nose. My tops of my legs are too big for the rest of me. People say I am too thin but I don't think I am, most people say I'm too thin and I don't eat enough or I don't eat the right foods. What do they know?

46. We are constantly bombarded with images of skinny females, it makes me feel fat because they're skinny and I feel I'm not.

47. Filling this form in made me realise that the reality of my weight, which at times has been 49kg and is currently 58kg has little to do with how I see and feel about myself. I found many questions quite difficult to answer, I tried to give an 'average' reply. Many of the negative feelings are 'answered' through a reality check with my intellect which tells me 58kg is not fat, size 10 is not large etc etc but I still worry about my thighs, stomach, bum and hips. Also, I'm not sure how much of what I feel is anxiety and how much is 'normal' arousal.

48. My auntie and uncle and friends have said I have a big bottom but I don't care and never take it to heart. I just joke around with them.

49. I have come to the realisation that I may have a problem about the way I see myself eg low self-esteem, and often though I must do something about it, but a second thought has made me feel that if I did it would be kind of failing - as I should be able to overcome this on my own. I often think about trying to get hold of anything to speed up my metabolism but as this entails getting a prescription from the doctor I have avoided the situation but think about getting something often. I would be appreciative if you could give me some contact names of people that I could go and see - as I do think I need some help.

50. I don't like people watching me eat, or dressing/undressing. I sometimes carry a tape measure with me to measure myself, hips, waist etc. I find that I tend to show my partner pictures in magazines of thin women and I say how good they look and I ask him what he thinks of them, pretty, slim etc.

51. Even though I am conscious about my 'fatness' I do accept it as I have a partner who likes 'fat'. However, this has taken me five years of being in a relationship with him to accept this. I have lost 5.5 stone already (I have about 3-4 to go). I

lost the weight for me but there was also social pressure to do so. I believe 'thin' people can't even begin to understand how revolting it is to be fat in today's society, I can't even write down things I have been called in the past - and from people I have never met! Also there are many assumptions placed on 'fat' people, I feel my job is now to change them!

52. While completing the last section, I found myself crying. Identifying these feelings has made me realise how close my anorexia still is, even though it passed 5 years ago.

53. When I was approximately 14 I became obsessed with losing weight and exercising. I lost way too much but kept on dieting and overdoing exercise. My parents started to control what I ate - looking back at photos I was too skinny - ever since I've never really felt comfortable about my weight and it fluctuates as I go through dieting phases.

54. When I was 14 I became very self-conscious about the way I looked and became obsessed with losing weight, both by exercising and not eating. I would exercise for about 3hrs per day (1hr each of aerobics, cycling and horse riding). I also stopped eating, except for maybe a carrot or 2 for tea. I would dirty my plates so my family thought I had already eaten. I am 5'7" and my weight dropped to 7.5 stone upon which my mother decided I was too thin and took me to the doctor. The doctor got my mum to supervise me at mealtimes to make sure I was eating. I have since always been in a continuous binge/diet cycle. Currently I am in a phase of trying to better my eating habits and instil a sensible exercise regime. I am not sure how long it will last but so far it is going well.

55. I am 1.67m tall and weigh 60kg and never ever consider at this size that I am fat. However, I feel everyone goes through stages where they feel they would like to be a little thinner.

56. While your study appears to focus on anorexia and bulimia, is there any way the information given here can give any psychological clues re my obesity?

Appendix 4

1. Diagnostic criteria for social phobia (APA,1987; p 243).

A. A persistent fear of one or more situations (the social phobic situations) in which the person is exposed to possible scrutiny by others and fears that he or she may do something or act in a way that will be humiliating or embarrassing. Examples include: being unable to continue talking while speaking in public, choking on food when eating in front of others, being unable to urinate in a public lavatory, hand-trembling when writing in the presence of others, and saying foolish things or not being able to answer questions in social situations.

B. If an Axis III or another Axis I disorder is present, the fear in A is unrelated to it, e.g., the fear is not of having a panic attack (Panic Disorder), stuttering (Stuttering), trembling (Parkinson's disease), or exhibiting abnormal eating behavior (Anorexia Nervosa or Bulimia Nervosa).

C. During some phase of the disturbance, exposure to the specific phobic stimulus (or stimuli) almost invariably provokes an immedite anxiety response.

D. The phobic situation(s) is avoided, or is endured with intense anxiety.

E. The avoidant behavior interferes with occupational functioning or with usual social activities or relationships with others, or there is marked distress about having the fear.

F. The person recognizes that his or her fear is excessive or unreasonable.

G. If the person is under 18, the disturbance does not meet the criteria for Avoidant Disorder of Childhood or Adolescence.

Specifiy generalized type if the phobic situation includes most social situations, and also consider the additional diagnosis of Avoidant Personality Disorder.

2. Diagnostic criteria for anorexia nervosa (APA,1987; p 67).

A. Refusal to maintain body weight over a minimal normal weight for age and height, eg, weight loss leading to maintenance of body weight 15% below that expected; or failure to make expected weight gain during period of growth, leading to body weight 15% below that expected.

B. Intense fear of gaining weight or becoming fat, even though underweight.

C. Disturbance in the way in which one's body weight, size, or shape is experienced, eg., the person claims to "feel fat" even when emaciated, believes that one area of the body is "too fat" even when obviously underweight.

D. In females, absence of at least three consecutive menstrual cycles when otherwise expected to occur (primary or secondary amenorrhoea). (A woman is considered to have amenorrhoea if her periods occur only following hormone, eg., oestrogen, administration).

3. Diagnostic criteria for bulimia nervosa (APA, 1987; pp 68-69).

A. Recurrent episodes of binge eating (rapid consumption of a large amount of food in a discrete period of time).

B. A feeling of lack of control over eating behaviour during the eating binge.

C. The person regularly engages in either self-induced vomiting, use of laxatives or diuretics, strict dieting or fasting, or vigorous exercise in order to prevent weight gain.

D. A minimum average of two binge eating episodes a week for at least three months.

E. Persistent overconcern with body shape and weight.